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AMERICAN ANNALS OF THE DEAF

FOUNDED 1847

The Oldest Journal in the World on Education of the DEAF

MARCH, 1969

Volume 114 Number 2

The Annals—The Sixteenth Convention of the National Association of the Deaf, with more than two thousand members attending was held this summer in Buffalo, New York (August 4 to 8, 1930), in commemoration of the fiftieth anniversary of the founding of the society. The convention was honored by the presence of numerous delegates from other countries, particularly Canada, France, Great Britain, Hungary and Roumania. Among the noted foreign visitors were Mr. William McDougall, hon. secretary-treasurer of the British Deaf and Dumb Association; Mr. Henri Gaillard, editor of *La Gazette des Sourds-Muets,* Paris; Mme. Marguerite Gaillard, secretary of Foyer des Sourds-Muets; and Mme. Georges Lamarque, of the faculty of the National Institution for the Deaf, Paris.

The highlight of the meeting was the unveiling on the grounds of the Le Couteulx St. Mary's Institution for the Deaf [St. Mary's School for the Deaf], Thursday, August 7 [1930], of a statue of the Abbé de l'Épée as a gift of appreciation by the deaf of America. Funds for the monument had been raised by a special committee and, at the behest of the association, Mr. Elmer E. Hannan, deaf sculptor of Washington, D. C. [was] commissioned to execute the figure of de l'Épée in bronze. [Mr. Hannan learned his art at St. Mary's from Sister Euphemia.]

Irving S. Fusfeld, Editor
Volume LXXV, No. 4, September, 1930
American Annals of the Deaf

The Abbé Charles Michel de l'Épée founded the first public school for the deaf in 1755 in Paris. His pioneer work helped in demonstrating that the deaf were capable of instruction.

VOL. 114 NUMBER 2

AMERICAN ANNALS OF THE DEAF

FOUNDED 1847

Official Organ

Conference of Executives of American Schools for the Deaf
FOUNDED 1868

American Instructors of the Deaf
FOUNDED 1850

MCCAY VERNON, PH.D.
Editor

RICHARD G. BRILL, ED.D.
Associate Editor

WILLIAM N. CRAIG, PH.D.
Associate Editor

POWRIE VAUX DOCTOR, PH.D.
Editor, Directory of Services for the Deaf in the United States

Under the Direction of the Executive Committee
of the Conference

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ROY M. STELLE *Chairman-Elect*	New York 1970
JOE R. SHINPAUGH	Virginia 1970
ARMIN G. TURECHEK	Colorado 1970
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EDWARD W. REAY	Idaho 1970
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MARCH, 1969

THE CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF

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President-Elect .... Roy M. Stelle, New York

Secretary .... Joe R. Shinpaugh, Virginia

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Captioned Films Educational
Media Center .... Howard M. Quigley, District of Columbia

The Conference of Executives of American Schools for the Deaf, originally the Conference of Superintendents and Principals of American Schools for the Deaf, was founded in 1868 and subsequently incorporated under the laws of the State of Maryland in 1958. The Conference is an organization of the executive heads of schools for the deaf in the United States and Canada, and has for its object "to promote the management and operation of schools for the deaf along the broadest and most effective lines and to further and promote the general welfare of the deaf."

AMERICAN INSTRUCTORS OF THE DEAF

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The American Instructors of the Deaf, founded in 1850 and incorporated by act of Congress in 1897, is an organization of educators of the deaf in the United States and Canada with the great object of promotion of the education of the deaf on the broadest, most advanced, and practical lines," and for that purpose "to secure the harmonious union in the organization, of all persons actually engaged in educating the deaf in America."

The American Annals of the Deaf

The AMERICAN ANNALS OF THE DEAF was founded in 1847 at the American School for the Deaf in Hartford, Connecticut, by the members of the faculty of that school, which is the first free public school for the deaf in America. Although the journal received the approval of the administrative school authorities, the periodical was first entirely sponsored by the members of the faculty. After two years the ANNALS was discontinued for some months but was revived by the members of the American Instructors of the Deaf in their first meeting in New York, N. Y., in 1850.

In June, 1861, the publication ceased because of the War Between the States, inasmuch as the membership was made up of northerners and southerners in almost equal proportion. In September, 1868, the AMERICAN ANNALS OF THE DEAF resumed publication with the editorial office on Kendall Green, in Washington, D. C., where it has since remained.

The AMERICAN ANNALS OF THE DEAF is the official organ of the Conference of Executives of American Schools for the Deaf, which was organized in 1868, and of the American Instructors of the Deaf, founded in 1850. According to the Library of Congress it is the oldest educational publication in the United States still in existence. It is also the oldest journal on the education of the deaf in the world.

The ANNALS is published five times a year, being issued in January, March, and May, September and November. The subscription price is $6.00 a year, payable in advance. If five or more copies of the ANNALS are sent to one address, the subscription price is $5.00 a year. The Directory number sells for $4.00. Back issues are available. Indexes for 1847-1875, 1876-1885, 1886-1895, 1896-1905, are available at $5.00 each. Indexes for 1906-1915, 1916-1925, 1926-1935, 1936-1945, 1946-1955, were issued as regular numbers of the ANNALS and may be purchased for $4.00 each. From 1956 indexes are included in the regular November numbers at single copy price. All requests for subscriptions or for back numbers should be addresed to Executive Manager, Conference of Executives of American School for the Deaf, 5034 Wisconsin Ave., N.W., Washington, D. C. 20016.

All subscriptions are based on the calendar year.

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THE AMERICAN ANNALS OF THE DEAF is published bi-monthly during the school year, appearing in the months of January, March, May, September, and November. The subscription is $6.00 a year, payable in advance. The subscription for foreign countries is $6.20 a year.

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EDITORIAL

It is perhaps helpful to the readers of the *American Annals of the Deaf* and contributors to have a statement and clarification of the editorial policies of the *Annals* at this time of change in editorial administration. At present some aspects of these policies remain to be worked out, but what has been done thus far will be presented.

The *Annals* is the official publication of the Conference of Executives of American Schools for the Deaf and of the American Instructors of the Deaf. The journal publishes articles related to educational and behavioral aspects of deafness and hearing impairment. Original research, position papers, descriptions of teaching techniques, clinical reports, literature surveys, occasional reprints and other manuscripts that would be of potential value or interest to teachers or allied professionals are welcomed and encouraged. The *Annals* is not restricted to any one educational philosophy and will publish worthwhile papers representing all views.

An Editorial Board is being established, the membership of which will be announced soon. A book review section is also planned, along with other new efforts at serving the needs of the readers and the needs of the field of deafness. The Editor welcomes suggestions from the profession for changes in policy and format.

Contributors and subscribers are asked to put up with some inconvenience during the transitional period of the administrative changes. Dr. Powrie Doctor has been kind enough to assist with the processing of manuscripts which were sent to him prior to the administrative changes.

A major effort will be made by the Editorial Staff to process manuscripts quickly. In the interests of contributors and of readers efforts are being made to establish a fiscal position which will enable quick publication and perhaps a some what larger journal.

Monographs and proceedings of meetings will be considered for publication independent of the four annual professional issues and the *Directory*. At present printing costs for these will have to be borne by the author or the institution sponsoring the monograph or report of proceedings.

McCay Vernon
Editor

AMERICAN ANNALS OF THE DEAF

VOL. 114 MARCH, 1969 NUMBER 2

ANNOUNCEMENTS

OFFICIAL CALL FOR THE MEETING OF THE CONVENTION

The forty-fourth regular meeting of the Convention of American Instructors of the Deaf will be held at the California School for the Deaf, Berkeley, California, June 22 to 27, 1969, for the purpose of conducting the necessary business, and the election of officers, and such other business as may properly come before the meeting.

MARVIN B. CLATTERBUCK, *President*
THOMAS J. DILLON, *Secretary*

Dr. Armin Turechek, Supt., Colorado School for the Deaf, Colorado Springs, Colorado, is in charge of the program for the meeting of the convention in Berkeley.

OFFICIAL CALL FOR THE MEETING OF THE CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF

The forty-first regular meeting of the Conference of Executives of American Schools for the Deaf will be held at the California School for the Deaf, Berkeley, California, June 24, 1969, for the purpose of conducting the necessary business, and the election of officers, and such other business as may properly come before the meeting. This meeting will also commemorate the one hundredth anniversary of the California School for the Deaf at Berkeley, California.

BEN E. HOFFMEYER, *President*
JOE SHINPAUGH, *Secretary*

OFFICIAL CONVENTION CALL

Professional Rehabilitation Workers with the Adult Deaf, Inc.
Hotel Arlington
Hot Springs, Arkansas
May 18-21, 1969

THEME: NEW PROGRAMS AND SERVICES FOR DEAF PEOPLE

The Convention will include a one-half day visitation, demonstration and luncheon at the Hot Springs Rehabilitation Center.

GARY D. BLAKE, *President*
STEPHEN P. QUIGLEY, *Convention Chairman*

INTERNATIONAL CONGRESS ON EDUCATION OF THE DEAF, AUGUST, 1970

STOCKHOLM, SWEDEN

On January 7-8, 1967, The Board of the Swedish Association of Teachers of the Deaf invited representatives from the other Scandinavian Associations of Teachers of the Deaf to Stockholm in order to discuss problems concerning the next International Congress on Education of the Deaf.

An informal invitation to meet in Sweden was issued at the International Congress on Education of the Deaf in Washington, D. C. in 1963.

In Stockholm, it was decided at the meeting that Sweden, in cooperation with other Scandinavian countries, should arrange an International Congress on Education of the Deaf in August, 17-21, 1970, in Stockholm.

PROGRAM

Convention of American Instructors of the Deaf

Berkeley, California

June 22-27, 1969

ARMIN G. TURECHEK, ED.D., *Superintendent*
Colorado School for the Deaf and the Blind
Colorado Springs, Colorado

Program Chairman, Convention of American
Instructors of the Deaf

THEME: Gateway for Progress in the Golden 70's

Sunday, June 22

10:00 a.m. — 5:00 p.m. Registration

7:30 p.m. — First General Session—James W. Howson Gymnasium

Presiding—Dr. Marvin B. Clatterbuck, President

Greetings from the City of Berkeley

Greetings from the California State Department of Education—Mr. S. W. Patterson, Chief, Division of Special Schools and Services, California Department of Education

Star Spangled Banner

God Save the Queen—led by Dr. J. G. Demeza, Superintendent, Ontario School for the Deaf

Response from Canada—Mr. Archie F. Leard, Superintendent, Saskatchewan School for the Deaf

Response from United States

Keynote Address—Dr. James J. Gallagher, Associate Commissioner for Education for the Handicapped, U.S. Office of Education

Announcements—Dr. Marvin B. Clatterbuck

Reception—Elementary Quadrangle
Host—California School for the Deaf, Berkeley, Staff

Monday, June 23

9:00 a.m. — 10:00 a.m. Second General Session

10:00 a.m. — Picture, Convention of American Instructors of the Deaf

10:15 a.m. — Picture, Conference of Executives of American Schools for the Deaf

10:30 a.m. — 4:00 p.m.

Multiply Handicapped—Mr. Robert K. Lennan, Chairman; Instructional Media Specialist, California School for the Deaf, Riverside

Vocational Education—Mr. Lang Russel, Chairman; Supervising Teacher of Vocations, California School for the Deaf, Berkeley

Mathematics — Leon Auerbach, Chairman; Chairman Department of Mathematics, Gallaudet College

Library—Goldie Trboyevich, Chairman; President, School Librarians of the Deaf

Contributed Papers—Mr. Hubert Summers, Chairman; Curriculum Coordinator, Southwest Regional Media Center for the Deaf

Convention Picnic—C.S.D.B. Athletic Field (open to all)

Tuesday, June 24

9:00 a.m. — 10:15 a.m. Third General Session

Business Meeting—Election of Officers
Dr. Marvin B. Clatterbuck, President

10:30 a.m. — 4:00 p.m.

Day Programs—Mr. Barry L. Griffing and Mr. Gordon M. Hayes, Co-Chairmen; Consultants in Education of the Deaf and Hard of Hearing, California Department of Education

Coaches and Physical Education—Mr. John P. Rybak, Chairman; Assistant to the Principal, St. Mary's School for the Deaf

Psychological, Social, and Vocational Problems—Dr. McCay Vernon, Chairman; Research Psychologist, Michael Reese Hospital and Medical Center

Reading and Language—Sister Anne Behre, Chairman; Superintendent, St. Francis DeSales School for the Deaf

NTID and Secondary Programs—Dr. Robert Frisina, Chairman; Vice President, National Technical Institute for the Deaf

11:45 a.m. — 1:30 p.m. Luncheons for Special Groups

The Central Institute for the Deaf Teacher Training Alumni

The Western Pennsylvania School for the Deaf Teacher Training Alumni

The Lexington School for the Deaf Teacher Training Alumni

The University of Arizona Teacher Training Alumni

1:30 p.m. — 4:00 p.m. Conference of Executives for the Deaf, Business Meeting

Gallaudet College Alumni Banquet (open to all)
The Blue Dolphin, Hayward Marina

Wednesday, June 25

9:00 a.m. — 10:15 a.m. Fourth General Session

Introduction of Speaker—Dr. Kenneth R. Mangan, First Vice President; Superintendent, Illinois School for the Deaf

Speaker—Dr. Harriet G. Kopp, Principal, Detroit Day School for the Deaf

10:30 a.m. — 4:00 p.m.

Curriculum—Dr. Harriet G. Kopp, Chairman

Preschool—Dr. Kenneth R. Mangan, Chairman

Speech and Auditory Training—Marian A. Quick, Chairman; Principal, Pennsylvania School for the Deaf

1:30 p.m. — 4:00 p.m.

Cued Speech—Dr. Orin Cornett, Chairman; Vice President, Gallaudet College

Principals and Supervising Teachers—Mr. Herbert W. Barkaloo, Chairman; Academic Principal, Western Pennsylvania School for the Deaf

Council of Education of the Deaf, Business Meeting—Dr. George T. Pratt, President

2:45 p.m. — 4:00 p.m.

Teaching Syntax to Young Deaf Children—Dr. Richard F. Krug, Chairman; Professor in Audiology, University of Colorado

Little Paper Family Dinner (Open to all)
Hotel Claremont

Thursday, June 26

7:00 a.m. — Breakfast—Leadership Training Program Alumni

9:00 a.m. — 11:45 a.m.

Teacher Preparation—Dr. Jean Utley Lehman, Chairman; Professor in Special Education, California State College at Los Angeles

9:00 a.m. — 2:30 p.m.

Education Beyond High School—Dr. Ray L. Jones, Chairman; Project Director, Leadership Training in the Area of the Deaf

Educational Media — William Jackson, Chairman; Director, Southern Regional Media Center for the Deaf

Audiologists—Dr. Jack Willeford, Chairman; Associate Professor in Audiology, Colorado State University

Computer Assisted Instruction—Dr. Thomas R. Behrens, Chairman; Director, Kendall School for the Deaf

11:45 a.m. — 1:30 p.m. Luncheons for special groups

The Clarke School for the Deaf Teacher Training Alumni

Ball State Teacher Training Alumni

Phi Kappa Zeta

1:30 p.m. — 2:30 p.m.

Presentation of DANCE, Inc. Program—Jo A. Geiger

2:45 p.m. — 4:00 p.m. Fifth General Session

Business Meeting, Dr. Marvin B. Clatterbuck, President

Convention Banquet—Goodman's, Jack London Square, Oakland; Toastmaster—Dr. Leonard M. Elstad, President, Gallaudet College; Speaker—Dr. E. C. Merrill, President-elect, Gallaudet College

Friday, June 27

9:00 a.m. — 11:45 a.m.

Convention of American Instructors of the Deaf, Committee Meetings

Conference of Executives of American Schools for the Deaf, Committee Meetings

9:00 a.m. — 4:00 p.m.

Tours of the Bay area

NOTICE

The following amendent to Section IV, Article V of the constitution of the Conference of Executives of American Schools for the Deaf was approved by the Executive Committee of the Conference, meeting in New Orleans February 1, 1969, and will be voted upon by the membership in regular session in Berkeley, California, June 21, 1969:

> "EXCEPT THAT, while the Executive Committee operates a national office headed by an appointed executive officer, the functions and controls formerly assigned to the treasurer are transferred to the executive officers of the national office. In this situation the treasurer shall retain membership on the Executive Committee, and serve as chairman of an auditing committee".

MOTIVATING AND TRAINING THE INSTITUTIONALIZED DEAF PERSON*

TERJE BASILIER, M.D.
SPECIALIST IN PSYCHOTHERAPY
HOME FOR THE DEAF
NORDSTRAND, NORWAY

Mr. Chairman and friends of the Seminar, it is a real pleasure for me to comment on the paper just given by Mr. Richard Johnson. A pleasure because he has some very good points for instance indicating that mental retardation, and I'll say other kinds of retardation, often is the result of the social and the educational situation. I had the great pleasure to visit the Lapeer State Home and Training School two years ago.

I do think, however, that we ought to look upon the concept "institutionalized deaf person" under a wider angle. We may think of the many deaf patients in the different mental hospitals where they live their lives under custodial care, but I think this part of the problem will be discussed in the New York part of the Seminar. All kinds of stay in institutions or hospitals for shorter or longer periods may have more severe implications on the personality development or the symptoms present than we generally believe. The best thing would be not to have any large institutions where patients of any kind get influenced by the impersonal spirit that so often dominates. The life in boarding schools from 8 to 12 years may be one of the causes of the development of what may be called Surdophrenia or the personality structure of the non-successful deaf person. That is one of the reasons why so many otologists and educators try to integrate even the profoundly deaf child in their home town normal schools to avoid this impact on personality.

As a prophalactic (or preventive) measure we should build the homes after the "small home principle" and outside the school campus. In our Norwegian school for multiply handicapped deaf we have based the boarding situation on five small villas (cottages or houses) with five children in each and one with ten children. The children are asked to partake in some of the easy household activities when they are not at school. The topic of today is about *improving* the deaf persons' capacities to meet the *demands of daily living*, and on the background of the deaf persons who are already institutionalized so I will leave the school problems alone.

If we are going to train a person it is very important to know what kind of daily living we train him on. Do we want to make the patient fit into the life and frame of an institution where the patient may stay for the rest of his life and to make the nursing situation as cheap as possible —or—do we want him to become as independent as possible? I will try to explain what I think with an example:

A deaf-blind person has e.g. been through a reactive psychosis and has come out from the mental hospital for regular care. The patient is autistic, mostly interested in the inner psychotic world. Should we try to communicate with the patient every time we enter the room with food or should we not. Should we let the patient partake in the decisions of her own life or should we administer it for her without asking her? The easiest way would be to leave her alone in her custodial care. If we start to communicate more than "needed" we have to understand that we awake expectations in the patients and we must be willing to satisfy the needs of communicating with someone and that is a personal consuming treatment. The patient would run into a new crisis if we awake expectations and did not lead the patient into the promised land of a communicative life situation. As Mr. Richard Johnson coined it: We should take "a long, hard look at our own attitudes" and think. We have to decide and pay the price so the patient can develop hidden capacities.

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* A paper delivered in May, 1968, at the International Seminar on Rehabilitation for the Deaf held at Washington, D. C., Hot Springs, Arkansas, and New York, N. Y. The Seminar was held by the National Association of the Deaf with a grant from the Social and Rehabilitation Service, Department of Health, Education, and Welfare, Washington, D. C.

To create motivation we must cover some very basic needs. The first need to be met is *adequate medical care.* All over the world there are too many deaf persons who have not been thoroughly examined, and thus have no chance to develop their residual capacities. Lots of so-called deaf persons have rather useful hearing remnants that ought to be trained with hearing aids, although they may not be able to get spoken language through their ears, the hearing aid might help them to come into a better contact with the sound environment. The most important examination of deaf persons seems to me the eye examination. According to my experience, too many deaf persons, even in institutions, walk around with refraction anomalies that should have been treated with glasses from early childhood, or eye diseases that could have been operated on as f.i. squinting with following reduced vision and blindness on the squinting eye if not treated adequately in due time. There may even be other physical disabilities or somatic diseases that may need specific treatment. The medical care must be adequate, so that the somatic basis of personal development is healthy.

If the client has a feeling of not being healthy and strong, this feeling of uneasiness is in itself a primary obstacle of creating of motives for social training.

The psychological and psychiatric evaluation and therapy must also be as good as possible. Neurotic or psychotic disorders have in many cases been undiagnosed, and the patient has shown no interest in the training programs made up for him. In many cases psychotropic medication and a psycho-therapeutic attitude towards the patient have given the patient a fair chance of starting out on the training program. When these basic needs have been met, we must look for other needs that ought to be fulfilled, to wake up the client to see that life can have other aspects and possibilities than before and I think it is worth while to go into some details.

First and foremost the person must get a feeling of belongingness, thats what Mr. Johnson named "Friendship" as a motivating factor. The client must get a feeling that people like and even love him. They must be regarded as persons with identity. We must try to help them get self-esteem. To be able to do that, the institution must be able to communicate adequately with the clients and with the therapists. I want to emphasize what Richard Johnson said about the awakening up of their desire of communicating.

In Norway we have seen patients coming from other institutions and into the Home for the Deaf, where the deaf milieu has given the client a feeling of group identity, and the client has then gradually wakened up to a new life, because he has got adequate communication with other people.

In this deaf environment they may increase their self-esteem by enlarging their area of social contacts.

We must remember that what a man can be, he must be. We must wake up their natural curiosity and desire to know and understand, and this can be done by a program of social and academic training. We must try to find out what type of life and function they are fit for, and all this educational part of the program should be given individually in the first period, so that the clients do not become afraid of showing the others that they are not competent in simple arithmetic and written language.

How then make them interested in learning simple mathematics and language, if they have no chance to make use of these skills in their social situation in the institution?

In our socio-medical training center in Norway, we have clients who have stayed for lots of years in boarding schools for the deaf before they came to us for vocational evaluation and training after having had no success in vocational life. According to the principle of learning by doing, their weekly rehabilitation salary is paid by mail, so that they have to go to the post office, show their identity card and sign the paper before they can have their money. Some even help the teacher send the money as a part of their educational program:

To train the client in daily living implies that they have to be trained to look after their own beds, clothing, make them able to prepare their own breakfast or supper, and take care of their "home situation". This part of the training should be taken care of by the milieu therapist (a person with special education for training clients of handling the demands of daily living. In Norway we have a special school educating personnel for this function). They must learn how to wash their own shirts, press their own trousers, mending and ironing their dresses, and last, but not least, they must learn personal hygiene.

We must help them discover the comfort in just taking a shower and being well-dressed, we must not assume that they *have* this understanding and are willing to make some efforts to get it. To be able to realize an adequate social training program, the institution must have a kind of building—i.e. room program and interior which makes it possible to carry out the program without too much effort from the clients. Therefore we must get away from the large institutions with dormitories for 20-30 or more patients, where the clients have no possibilities of having their own belongings with them. The clients should have their own rooms and their own private clothes, and get a chance to live independently, go shopping, buy their food and plan the use of money. This should be arranged as a special training program!

One of the most expensive, but also most pleasant forms of social training is to arouse their esthetic needs. These needs will be met, naturally by learning personal hygiene and a tasteful way of dressing, and as to women, it is important to give them opportunity to go to a hairdresser, in order to make them able to discover how pleasant it is to look well. The other clients will soon notice beautifully styled hair: deaf people are specially observant with regard to visual impressions, and they soon notice a person's appearance.

The esthetic needs also concerns the institution where they live, the rooms should have nice colors and textiles, the furniture should be practical and have colors which stimulate them and animate them to take care of the furniture. Old, worn-out chairs do not stimulate careful handling. There should be nice pictures on the walls, and carpets on the floor. When people see beautiful things in their surroundings, this stimulates them to come out of their inner isolation and passivity.

To help the clients take care of things and keep nice surroundings, the clients should also have opportunity to lock their doors with their key. They should have a special key to the cupboard, so that they can be sure that only they can get into this cupboard. These are things that can give them self respect, and institutions must never break these rules, because then the deaf will have the feeling that the personal integrity has no value.

In addition to the key to their own rooms and cupboard, the rooms should also be equipped with the technical aids used by deaf in the general community. These aids are doorbell with flashlight instead of sound, and alarm clock with vibrator or light. They must learn to buy or order by post, batteries for their hearing aids, for when they have left an institution, nobody will help them.

It is often very difficult to make institutionalized deaf persons understand that they, to a certain extent are responsible for the way of life they live. Through *community therapy meetings* we try to build up a feeling of group cohesiveness among the clients. Both trainees and professional staff are present at these meetings. When there are problems in the boarding home we discuss these problems openly and tell them what we believe should be done to make one or another client understand what is going on. Clients may then comment on our disposals and plans, and from one weekly meeting to another the clients gradually understand that they may influence our ways of handling the problems, and thus we make them more mature, socially. They do little by little, become so mature that they dare say what they think about the center and their own situation.

In addition to these weekly meetings, we also have small social groups built up with a group leader and an assistant, and then 6-8 deaf clients. The atmosphere in these groups is psychotherapeutic, and in these groups they discuss personal problems or problems of daily life and the therapists may use pedagogical methods when showing them f.i. how much they have to pay for health insurance, taxes, housing, etc., when they start earning money outside the institution.

Mr. Johnson said that we should help the patients to maintain physical function and stimulate the residents to assume responsibility for self care. In Norway we try to do that even by our recreational services, by arranging excursions and trips with groups of clients they experience new situations and surroundings that make them feel the need of social amenities and capabilities. Each winter we arrange a week's course in the mountains where the clients live in cabins, go skiing and have pleasant times together. All these services make them function better and they may get the feeling of belonging to a greater community. Although some deaf persons have to live their lives in institutions, they get their needs for self-actualisation satisfied. I hope these comments may be of some value for the group discussions.

PROVISIONS FOR APHASIC CHILDREN IN PUBLIC RESIDENTIAL SCHOOLS FOR THE DEAF IN THE UNITED STATES

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A. The Survey

A survey was undertaken to answer a need for systematized information about the behavior and management of aphasic children in schools for the deaf.

B. Procedures

A survey was conducted of public residential schools for the deaf in the United States to ascertain which schools had aphasic children and if they had specialized educational provisions for them. Those schools which have established specialized facilities were investigated by means of a detailed schedule which was mailed to administrators of the schools and answered by them and by other professionals involved with aphasic children. After the data were collected, visits were made to five of the schools by the investigator.

C. Findings

Prevalence of aphasic children was estimated in the study: Two-thirds of the public residential schools for the deaf in the United States report the presence of some aphasic children in their population. Almost one-third have established specialized educational provisions for them which range in age from one to eleven years of duration. The average program has been in existence five years. (Thirteen schools with special programs have waiting lists for aphasic children.) The trend apparent in the study is toward admission of more aphasic children into schools for the deaf with an increasing establishment of special programs and an expansion of existing special programs. Of the total group of aphasic children, 12 per cent are estimated to have normal or near normal hearing and another 19.4 per cent to have partial hearing. There were 68.5 per cent of the group that had severe hearing loss. The percentage of aphasic children to deaf children in the respective schools with special programs ranged from 1.9 to 36.2 per cent with an average of 9.7 per cent of the school population, or 500 children.

Admission policy was determined in the responding schools. In all reporting schools with special programs, admission criteria with respect to aphasic children were based on local institutional policy (81 per cent) or permissive state law (19 per cent). The admission policy of six schools allows for the acceptance of aphasic children with normal or near normal hearing.

One-half of the reporting schools admit over 90 per cent of their aphasic children as deaf children and rediagnose them as aphasic after admission, irrespective of the number of years they have provided specialized provisions for them. All of these schools have a policy against admission of hearing aphasic children. There is some tendency for the staff of schools which rediagnose more aphasic children to assume the responsibility for the diagnosis rather than rely on outside people.

Over one-third of the reporting schools tend to admit their aphasic children as such and rediagnose under 10 per cent of the aphasic group, irrespective of the number of years they have provided specialized provisions for them. About 83 per cent of these schools have a policy of admitting hearing aphasic children.

The average number of aphasic children admitted by these two groups of schools is about the same.

When schools rely on their own staff for diagnosis of aphasia, they are more likely to have a diagnostic unit or class than when outside people make the diagnosis.

A definition of aphasia was agreed upon by most respondents. The language disordered child, who was labeled as *aphasic* in the study, was defined as follows: A child would be regarded as aphasic who either has difficulty expressing or understanding language symbols, or both, and whose problem is not primarily the result of peripheral hearing loss, overall intellectual deficiency, defects in the speech mechanisms, or emotional maladjustment.

Thirty-five administrators, teachers, psychologists and social workers from 18 schools contributed results to the study. In 11 schools respondents agreed fully with the definition. In five schools respondents agreed but added their emphasis and qualifications.

Characteristics of aphasic children in schools for the deaf were reported. Boys predominate in the aphasic group in significantly greater numbers than in a normal or deaf population of the same age range. The majority (68 per cent) of the aphasic population in schools for the deaf have severe hearing loss, but 12 per cent have normal or near normal hearing.

Problems distinguishing aphasic children from deaf children were mentioned in the areas of visual, motor and auditory perception, emotional and behavioral adjustment, in addition to problems in linguistic function.

Professional participation in diagnosis and evaluation was explored in the study. The typical aphasic child in the school for the deaf is likely to be seen by people of seven different specialties before admission and six after admission. The audiologist is *always* involved in the evaluation, while the psychologist, school for the deaf teacher and pediatrician are usually involved.

Specialized provisions for aphasic children in the 18 schools were researched. The proportion of aphasic children to deaf children tends to increase as a function of number of years a special program has been in existence.

Of the total aphasic group in the 18 reporting schools, 86 per cent or 424 children are receiving specialized educational provisions. These children range in age from 4 to 18 years, with the average younger and older age limits being 6.4 and 13.1 years respectively.

Twelve of the 18 reporting schools have over 90 per cent of their aphasic children in a special program, while two schools have only half of their children in special programs.

Eighteen reporting schools listed 64 full time and 8 part time classes taught by 75 teachers. Therefore the average school had about 4 classes taught by 4 teachers with an average class size of 6 pupils. There were 43 per cent of the classes which were conducted on the primary grade level, while 22 per cent were taught in special units. Sixteen per cent were taught at the kindergarten or preschool level. Only one school taught on a secondary school level. This was a vocational class. Nineteen per cent of the classes were middle grades.

One-half of the 18 reporting schools initiate a special program at the primary school grade level, while 4 or 22 per cent only provide special units. The remaining 5 schools initiate their programs at the preschool or kindergarten level.

Five or 28 per cent of the schools completed their special programs within the primary grade level, while 8 or 44.5 per cent completed their programs at the middle grade level. Only one school offers a special vocational program beyond the middle grade level. It is the expectation of 12 schools that their aphasic children will remain in the special program from 2 to 14 years, with an average of 6.4 years.

Ninety-four per cent of the schools integrated aphasic children with deaf children for living management, 75 per cent integrate them for enrichment classes, and 81 per cent for extracurricular activities. Thirty-two per cent integrate aphasic children receiving specialized instruction for some formal instruction with the deaf children and 37.5 per cent for vocational classes. No schools separate aphasic children in all situations.

Information was obtained concerning specific modifications in plant and equipment to accommodate aphasic children. Most schools have made modifications of their physical plants to accommodate aphasic children. Four schools have added classrooms. One has added buildings specifically for aphasic children. One added observation rooms.

The majority of schools have modified their teaching methods for aphasic children from those usually employed with deaf children. The McGinnis method is the most commonly used, although often modified and used in conjunction with Montessori techniques or other methods.

The aphasic child's teacher is primarily responsible for evaluation of the progress of the aphasic child. In most cases, the ultimate aim of the special program is integration of the aphasic child in regular classes for the deaf.

Of the total number of teachers listed on the educational staff in the 18 reporting schools (*American Annals of the Deaf*, 1966), 71.5 per cent have an earned college degree. Of the 73 teachers in the special programs, 91 per cent have an earned college degree. On the basis of these figures, teachers of aphasic children seem significantly better prepared academically than teachers in the institution at large. Unfortunately, figures on higher degrees for the total educational staffs are not given. In the reporting schools the majority (60 per cent) of the teachers in the special program had masters degrees.

The fact that a majority of the teachers had more than two academic specialties again gave evidence of the relatively high level of teacher preparation. On the other hand, only 32 of 73 of the teachers in the special program had specialized in aphasia.

The strong emphasis on hearing problems is born out by the higher percentage (71.2) of teachers certified as teachers of the deaf as compared to those certified as teachers of aphasics. While 32 of the special teachers had specialized in aphasia, only 22 were certified in that field.

In 12 of the schools over two-thirds of the teachers have taken further formal training after their employment.

Most teachers belonged to more than two professional organizations, but again favoring those specializing in the deaf.

D. Conclusions and Recommendations

The generalizations and conclusions resulting from the study have implications for schools for the deaf and possibly for other types of facilities which might be contemplating the establishment or enlargement of a specialized program for aphasic children.

The need for specialized programs for aphasic children can probably be expected to increase. New programs for aphasic children should probably be geared to a population with a preponderance of boys even greater than that in a conventional program for the deaf.

Since behavioral definitions of aphasia seem to be the most useful to educators, criteria for admission, diagnosis and evaluation might be more constructively framed in this terminology rather than the traditional classification developed to describe adult aphasia. The administrator who is establishing a program for aphasic children may want to bring together a team for diagnosis and evaluation including a teacher, audiologist and psychologist, since these specialists have been customarily and fruitfully employed in existing programs. Since audiometric examinations are ambiguous in aphasic children and it has been shown to be difficult to ascertain degree of hearing loss in them, schools for the deaf may wish to diagnose and admit aphasic children without stating a definite policy with regard to hearing loss.

It can be conjectured that programs for aphasic children will expand relative to usual programs for the deaf. More schools for the deaf will probably establish special programs in view of present trends.

Those establishing specialized programs might follow the organization most typical of present programs, which separate aphasic children for classroom instruction in the early grades. If current practice is taken as the standard, class size should be about 6 children. Modification of a physical plant planned to reduce distraction should be considered for aphasic children. Isolation areas, or rooms, corrals, moveable desks are possibilities. Sound proofing ceilings, use of carpets and non glare materials might be useful. Instructional materials specifically designed to remediate perceptual insufficiencies in the motor, visual and auditory areas should be employed. These might include a walking board, Montessori and Frostig materials, a loop system, special records, and the

Language Master, all of which have proved useful to some existing programs. The effectiveness of the McGinnis method relative to other teaching methods has not been established.

Drawing from present practice, it can be recommended that teachers chosen for aphasic programs should have at least a college degree and have specialized in at least one area in education. Administrators may wish to incorporate in-service training programs or planned leaves of absence for further training of teachers of aphasic children during their employment.

Professionals who establish a specialized program will find new guidelines for placement and vocational planning for aphasic children. They should carefully follow the progress of children in existing programs in order to profit from the experiences of older facilities as they begin to face this problem.

The findings also have implications for future research in the following areas: prevalence of aphasia, differential diagnosis of aphasia, legal policies and practices with regard to aphasic children, management, education and vocational planning for aphasic children.

The prevalence of aphasic children in community schools and other types of facilities should be surveyed also.

In order to facilitate differential diagnosis, it is suggested that aphasic children in other types of institutes be studied to ascertain the characteristics of aphasia. Research at the neurological level should determine the relationship of organic deficit to behavioral manisfestations.

The relationship of hearing loss to aphasia needs to be researched further. Refinement of audiological techniques seems crucial to such investigations. The prolonged use of hearing aids on aphasic children may have adverse consequences which further study could elucidate. The psychological implications of placing a child (aphasic) who may have normal hearing in a deaf society should be explored.

The relationship of legal policies and practices to the admission and special provisions for aphasic children needs clarification in those schools which have not established special programs. An important part of such a study would be an investigation of the contingency of hearing loss, and the effectiveness of the policy in determining what kinds of children are actually admitted.

The research could work to the end of removing blocks to the establishment of needed programs and to provide guidelines for grant requests for programs.

Behavior of aphasic children in non-academic situations, should be investigated both from the standpoint of refining the definitions of the condition and establishment of good management techniques.

An analysis of present educational goals, teaching methods, and techniques should be made in relationship to the specific educational needs of aphasic children in order to develop a sound remedial educational program. Optimal organization for management and instruction of aphasic children with respect to residential schools, as compared to day schools, should be explored. In light of the special needs of aphasic children and the most promising directions of remediation, the optimal program for teacher training should be explored.

Exploration of secondary educational and vocational potentialities of aphasic children is a critical need both for those children now progressing through special programs and for optimal formulation of future programs.

Preferences of teachers and their assessments of their own questions, strengths and deficiencies should be investigated.

E. Summary

The 66 public residential schools for the deaf in the United States were surveyed with respect to aphasic children in their populations and specialized educational provisions for them. A detailed schedule was collected from 18 of the 20 schools with a special program at one or more educational levels. Visits were made to 5 of these schools by the investigator. The findings are listed as follows:

The language disordered child, who was labeled as *aphasic* in the study, was defined as follows: A child would be regarded as aphasic who either has difficulty expressing or understanding language symbols, or both, and whose problem is not primarily the result of peripheral hearing loss, overall intellectual deficiency, defects in the speech mechanisms, or emotional maladjustment.

Thirty-five administrators, teachers, psychologists and social workers from 18 schools contributed results to the study. In 11 schools respondents agreed fully with the definition. In 5 schools respondents agreed but added their emphasis and qualifications.

Two-thirds of the public residential schools for the deaf in the United States report the presence of some aphasic children in their population. Almost one-third have established specialized educational provisions for them which range in age from one to eleven years of duration. The average program has been in existence five years. (Thirteen schools with special programs have waiting lists for aphasic children.)

The trend apparent in the study is toward admission of more aphasic children into schools for the deaf with an increasing establishment of special programs and an expansion of existing special programs.

The percentage of aphasic children to deaf children in the respective schools with special programs ranged from 1.9 to 36.2 per cent with an average of 9.7 per cent of the school population, or 500 children.

In all reporting schools with special programs, admission criteria with respect to aphasic children were based on local institutional policy (81 per cent) or permissive state law (19 per cent).

The admission policy of six schools allows for the acceptance of aphasic children with normal or near normal hearing. Twelve per cent of the total group of aphasic children are estimated to have normal or near normal hearing and another 19.4 per cent to have partial hearing. Of the group 58.5 per cent had severe hearing loss.

Boys predominate in the aphasic group in significantly greater numbers than in a normal or deaf population of the same age range.

Problems distinguishing aphasic children from deaf children were mentioned in the areas of visual, motor and auditory perception, emotional and behavioral problems, in addition to problems in linguistic function.

Forty-three per cent of the 75 classes for aphasic children are conducted on a primary level. Nineteen per cent are in the middle grades and 16 per cent at the preschool level.

The McGinnis method is that most commonly used, although often modified and used in conjunction with Montessori techniques or other methods.

All reporting schools have modified physical plant and instructional materials to some extent to accommodate to the special needs of aphasic children. One school has added an entire building for its aphasic group. Equipment modifications are common.

Ninety-one per cent of the 73 reporting teachers of aphasic children have earned college degrees, and this group has a significantly higher level of training than teachers of the deaf at large.

THE READING OF PARAGRAPHS

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"Well, what standard were they?"

This seems to be the inevitable first question of teachers of the deaf to their colleague who has visited another group of deaf children. Before setting off on a very short visit to the U.S.A., I made preparations so that I would come back with something more than a vague impression of "standard". As many deaf children seemed to be leaving in their third year of High School work (called Form 3 in the Australian State of New South Wales) I took with me a reading comprehension test which the very ablest children had passed. These able deaf children were from our Public Day School, our State Residential/Day School and from one "Opportunity Deaf" unit in a State High School.

My reasons for the choice of this exercise were several. I regard the ability to understand written English in paragraph form as probably the greatest measure of academic success in our teaching. This particular passage had been set and marked by a teacher who did not know the deaf pupils and had marked their papers along with hundreds of Form 3 hearing pupils' papers at his own school. I had the marking scale so was able to apply this to mark other papers. The passage consisted of three consecutive paragraphs from "The King of the Golden River" by John Ruskin, and as both Australia and the United States of America have inherited English literature this seemed a fair passage which could not contain local language usages. Incidentally, in no case did a child indicate any prior knowledge of the story; this probably would not have affected the test, but I mention it in case some reader wonders whether this happened.

I have next to provide the answer to the other stock question of teachers of the deaf: "What were their hearing losses?" All the children who did the reading test were children placed in a special school or class because of their hearing loss. So for the purpose of this article they were "deaf". However, I have some evidence of age of onset and degree of hearing and these of course have relevance to my analysis.

Form 3 of a N.S.W. High School seems equivalent to 9th Grade in the U.S. High Schools I visited: equivalent in the sense that in both cases children commonly enroll at five years of age in Kindergarten, then proceed through first to sixth grades before changing to a High School. Hence Form 3 and 9th Grade represent the third year in High School. It has been common for N.S.W. deaf children to leave school at the end of Form 3; in the U.S.A. High Schools I visited, 9th Grade was the completion of Junior High School but it was usual for children to proceed for a further three years at Senior High School.

The Sydney schools from which I had had the Form 3 children do the reading for comprehension exercise were:

1. The Farrar Public School for the Deaf, which is a small Sydney day school. It uses only oral and written communication media.

2. The Opportunity Deaf day classes at Kogarah High School in Sydney. These are an integrated part of an ordinary High School and use only oral and written communication media.
3. The N.S.W. School for Deaf Children at North Rocks in Sydney, which is a Residential/Day School. Oral, finger spelling and written communication are taught there; this is termed "dual" method.

In the U.S.A. I was kindly allowed, indeed I should say encouraged, to give the reading test to children in integrated day classes in a Los Angeles Junior High School and also in Riverside State Residential/Day School for Deaf. The "integrated" classes stated that "method of instruction is oral" but "the simultaneous method is used for reinforcement and clarification of concepts". Riverside State School for Deaf described its communication method as "simultaneous". There was not a separate day school for the deaf which High School pupils could attend in the area. It should be mentioned that the Riverside State School had a very large enrollment, even in its High School, compared with the Los Angeles Junior High, and with the N.S.W. groups.

As only the very ablest Sydney children had done the test I asked two schools I was visiting to select their best children to try the test. The following table shows only the scores of the children who gained at least 50% in the test.

NUMBER OF CHILDREN WHO GAINED ACTUAL SCORE OF (%)

	85	82.5	80	77.5	75	72.5	70	67.5	65	62.5	60	57.5	55	52.5	50
SYDNEY SCHOOLS															
Farrar	1								1						
N.S.W. School, North Rocks					1										
Kogarah High, O.D. Class						1									
CALIFORNIAN SCHOOLS															
Riverside						2	1						1	1	1
A Los Angeles Class											1				

The comments of the supervising teachers and of the language teachers in the two U.S. schools, when they saw the test prior to it being given, were similar: their standardized reading tests do not usually ask for full written sentences as answers in reading comprehension, nor do they ask "Why . . .?" or "Give a reason for your answer." Examples of such questions were:

> None of these streams fell into the valley itself
>
> Why, then, was it fertile?
>
> and
>
> How would you expect Gluck to feel towards his brothers? Give a reason for your answer.

In teacher-made tests the pupils would of course have had such questions. Answering such questions inevitably brings written expression into account.

Two questions which most of the children in both countries found difficult were:

> Mention two points of contrast between Gluck
> and his elder brothers.
>
> and
>
> Write down two statements that show the passage
> describes something unreal. Give a reason for your choice.

Many children were unable to answer these questions in full and most of them made some errors of grammar or sentence structure in their answers, thus losing marks.

If the test had involved mostly multiple choice type answers the results may have been different. There were three multiple choice type sections which we may try to use as a basis for comparison. However, one of these questions both U.S. supervising teachers said should be excluded in the scoring because their pupils would merely be guessing. This question was:

> It looked like a shower of gold. The figure of speech
> there is alliteration simile metaphor
> Underline the correct one.

I was told it is not customary to teach the names of figures of speech in U.S. Junior High Schools, although children would of course be expected to understand the meaning of the phrase. This left only two sections which were in a form similar to U.S. standardized reading tests. One was:

> From the list below, underline the topic of the
> Second paragraph.
>
> (i) the Golden River
> (ii) the brothers Schwartz and Hans
> (iii) a fertile valley
> (iv) farming

The two Farrar and one North Rocks pupils had correctly underlined "the brothers Schwartz and Hans". Three of four Kogarah pupils had correctly underlined it. All ten candidates from the Riverside Residential/Day School and two of five candidates from the Los Angeles Integrated Day Class had correctly underlined it. The other multiple choice exercise was:

> The words on the left are taken from the passage. In each case select from the group on the right the word that is closest to it in meaning in the passage.
> Underline the word that you have selected.
>
> secluded: included, remote, foreign, nearby.
> constant: unchanging, faithful, moving, fast-flowing.
> populous: gay, noisy, well-liked, crowded.
> circular: notice, rounded, memorandum, oval.
> opposed: resisted, opposite, blocked, fought.

One Farrar pupil had all five of these right, the other had three right. The North Rocks pupil had four right. Two Kogarah pupils had four right and two had three right. Of the ten Riverside Residential/Day School candidates two had all five of these word meanings right, three had had four right, three had had three right, one had had two right and one had had only one right. Of five Los Angeles Integrated Day Class candidates one had had all five right, two had had three right but two had been unable to select any of the right meanings.

If the children had been marked on these two multiple choice answers alone the results would have been:

Farrar: 1 candidate 100%, 1 other pass standard.
Riverside Residential/Day School: 2 candidates 100%, 7 others pass standard.
N.S.W. Residential/Day School, North Rocks: 1 candidate pass standard.
Kogarah High O.D.: 4 candidates pass standard.
Los Angeles Integrated Day Class: 3 candidates pass standard.

This would have meant that 3 more "State Residential" and 5 more "Integrated" children (U.S. and Australia) would have passed. This cannot be taken as an estimate of the children's comprehension of the whole passage, however. If the full scoring of the original test did not represent reading comprehension alone, then it represented something higher and tested both reading comprehension and written expression. In that event all children who gained 50% or more on the full test (as shown on the table of scores) must represent a satisfactory language attainment.

The discussion above relates to a group of children so "deaf" that they need some form of special educational assistance and as such is of general interest to teachers of "deaf" children. However, I must answer the second stock question, "What were their hearing losses?"

As all teachers of the deaf recognize that it is the child born profoundly deaf who suffers the greatest handicap, it is important to study these children separately. In all, 22 selected children had attempted the test for me and 11 of these had passed the test. Two of the successful children had been profoundly deafened at 6 and 8 years of age; four others had useful residual hearing (less than 80 db. average in the better ear). This left only five successful candidates who had been profoundly deaf from birth. Showing only children profoundly deaf from birth the scores would read:

		Score
N.S.W. School, North Rocks,	girl, 14 yrs. 9 mths, 103 db.	75%
Riverside School, U.S.A.,	boy, 13 yrs. 1 mth, 98 db.	72.5%
” ” ”	boy, 14 yrs. 10 mths, 95 db.	72.5%
” ” ”	girl, 16 yrs. 0 mths, 92 db.	70%
Farrar School, Sydney,	girl, 16 yrs. 3 mths, 97 db.	65%

All five profoundly deaf children must be considered to be doing extremely well, especially the one who had reached this standard at the age of thirteen years.

All but one of the Sydney pupils tested were in their last year at school. It is common for deaf children and for the greater proportion of hearing children to leave N.S.W. schools after three or four years of High School; only a small percentage of N.S.W. children remain for a full six years of High School course. These U.S. deaf children I tested probably have another three years of schooling ahead of them; those who passed this test in 9th Grade should achieve a high standard in paragraph reading by the time they complete 12th Grade.

Acknowledgment must be made of the assistance given in the writing of this article by Dr. Richard G. Brill, Miss Alyce Thomas and Mrs. Louise Barr.

LOOP INDUCTION SYSTEM

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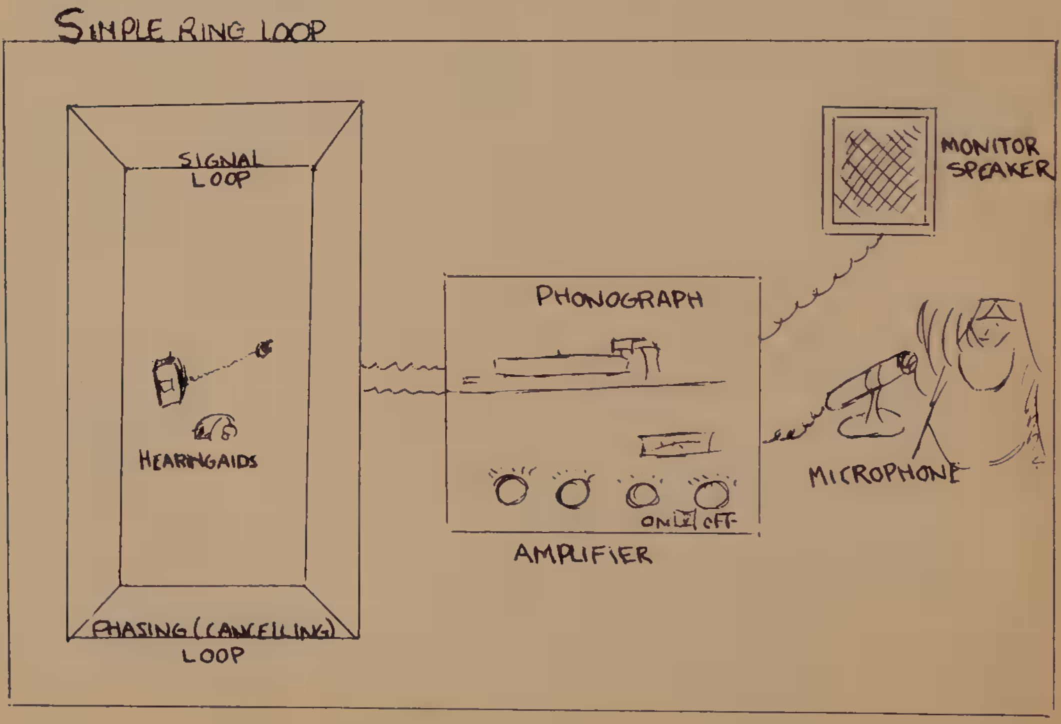
Contrary to what some people say, explaining a Loop Induction System is not too difficult. To start with, inductance means the transfer of electrical energy from one source to another without being connected to that source by wires (transformer effect).

Specifically, the Loop Induction System is a group of components consisting of one or more microphones, an amplifier, a room-sized loop of wire, and an individual hearing aid which contains a telephone pickup coil, also referred to as an induction coil.

In the classroom, when a signal is put into the loop amplifier such as voice, phonograph, or motion picture sound projector, the training material is transmitted electronically to the radiating loop of wire around the classroom, with "closed circuit" reception by the pupils through the induction coil pickups of their individual hearing aids. With field strength adjusted to the needs of the most severely impaired in the classroom, each other pupil need only set his own hearing aid for best reception.

DIAGRAM OF LOOP INDUCTION SYSTEM



Essentially, speech is transduced from vibrations of air to electrical vibrations after they enter the microphone. There they are amplified by the amplifier, but instead of going to the speaker or earphone, they travel into the loop of wire where they are then emitted electro-magnetically into the air.

If a pupil with a hearing aid equipped with the telephone pickup coil is within the loop field, he will hear the speaker's voice. This occurs because the radiated electro-magnetic energy transmitted through the air excites the coil in the hearing aid, where it is again amplified by the hearing aid into audible sound. It is of importance to insert here that most of the pre-1964 model hearing aids will not work in this system, unless they have been converted (re: induction coil installation) to meet the needs of the hearing handicapped child using a loop system. That is, the coil, if there is one in the hearing aid, must be oriented, as well as the hearing aid which must be worn parallel to the loop, so that the transmitted material will be induced into the tel-coil at maximum strength.

In other words, this method of transmitting subject material bypasses the hearing aid microphone with its response limitations and in addition, assures reception with a much better signal-to-noise ratio. Equally important, the pupil uses the familiar hearing aid he depends on at all times.

The system also offers exceptionally wide range performance, which can be modified when required through tone control circuitry. Also, expanded two-way communication between pupils and teacher can be arranged through the built-in provision for a second or third microphone.

Some of the advantages of this versatile training device for the hearing handicapped are:

1. Headphones, cords, and control boxes are eliminated.
2. There is complete freedom of movement in the classroom by teacher and pupils.
3. Many of the potential sources of noise and failure of equipment are eliminated.
4. The child wears the same hearing aid in school and at home. (extremely important)
5. It makes teaching easier and more pleasant.

Some of the disadvantages are:

1. Pre-1964 model individual hearing aids
2. Spillover from classroom to classroom on horizontal plane
3. Extraneous signals that are transmitted vertically (classrooms located above and below each other)
4. Poorly designed loop (performance dependent on wire, size, length in feet, design and location in the room)

Spillover is one of the major problems we have to face. Spillover describes the situation in which the magnetic field in one classroom enters the adjacent classrooms, and the child in the adjacent classroom hears the teacher in the first classroom on his hearing aid.

To reduce this spillover several techniques are recommended. First and most successful at present is the use of the *phasing* or *nulling* loop technique. That is, if a second loop of wire is placed outside and on the same level as the main loop, and if this loop of wire is connected to the amplifier in such a manner that the current in it flows in the *opposite* direction to the current in the main loop, then by a cancelling effect, there would be a nulling of the magnetic field outside of the main loop.

It is necessary to install a special internal cancelling control which will control the amount of current in the reverse direction in the outer loop.

The phasing loop works well for spillover with rooms on the same floor. However, it is not effective for rooms in which one is directly over the other. The following recommendation should be followed. Place the loop in the *lower* classroom under a rug, which would offer a smooth walking surface over the loop wire and also improve the room acoustics, or place it on the floor. The loop in the *upper* classroom should be placed as high up as possible near the ceiling.

Therefore, a child standing on the floor of the *lower* room is closer to the loop on the floor of the lower room than he is to the loop in the classroom on the floor above. Likewise, a child on the *upper* floor will be closer to the loop over his head than to the loop on the floor in the room below.

As a result of experiment and experience in teaching our hearing handicapped children, plus the engineering and production skills of those trained in electronics, many improvements and additions have been made on the Loop Induction System and on the hearing aids in the past year or so.

As opposed to original designs, regarding equipment and conversion, the following changes have been made in a few of our classrooms.

1. Four conductor signal loop of heavy gauge wire to handle maximum current (2 amps.). This means we have four complete turns around the room to give maximum signal strength. (Original system had only two turns of light gauge wire.)
2. Cancelling (null) loop of same specifications as the signal loop with nulling control installed in amplifier to bring to a minimum any stray spillover from signal loop. By adjusting *null control*, spillover can be held to a minimum. (Special equipment required to calibrate this adjustment.)
3. New exclusive design of output transformer, giving perfect impedence match to loop—assuring maximum signal and magnetic field strength.
4. First audio-amplifier stage has been converted to put D.C. on the tube filament to insure quiet—no hum operation. (Formerly A.C.)
5. New shielding devices have been installed to cancel any stray magnetic fields within the amplifier itself to insure quiet no-hum operation.
6. Ten resistors, five condensors (capacitors), 1 diode, 28″ of new filament leads, 1-3 lug terminal strip and various and sundry hardware has been installed to bring amplifier to current factory specifications.

This conversion adds up to an output signal strength of approximately ten times the original—also assuring lowest possible distortion, noise, hum and any other difficulties inherent in any audioamplifier.

It is so encouraging to note how many hearing aid companies are introducing hearing aids that will meet the needs of our profoundly deaf children and adults. As a result of all these new and improved Auditory Instruments, many feel that it is making teaching and learning much more pleasant for everyone concerned.

A HISTORY OF THE EDUCATION OF THE DEAF IN THE PHILIPPINES

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The Philippine Islands became a part of the United States of America in 1899, at the close of the Spanish-American War. In 1935 these islands obtained Commonwealth status, and on July 4, 1946, after undergoing what was probably the harshest wartime treatment of any Axis occupied area, independence was granted to the Republic of the Philippines.

Little is known about deafness before the American era in the Philippines and it seems unlikely that efforts were made to educate the deaf. As a matter of fact, little effort was made during that era to educate the masses except insofar as the friars deemed some training necessary to make the inhabitants good Christians. We know of only two references to deafness in the Philippines before 1900. The first reference is in a report to Spain by the soldier Miguel de Loarca in June 1582.[1] Loarca, in describing the natives of the Pintados islands (now called the Visayas), says, "Among them are found no crippled, maimed, deaf, or dumb persons." From this one might assume that those with physical disabilities were destroyed; on the other hand these 16th century observations may simply reflect an incomplete knowledge of the area due to the limited time Loarca spent there.

In his classic history of the Philippines of 1604, Father Chirino, a Jesuit, mentions the baptism of two mutes in Dulac by Father Francisco de Otaco; they had received instructions in the faith by Father Ramon de Prado, the vice-provincial, who taught them by signs.[2]

Education Under U. S. Auspices

The next published reference to deafness in the Philippines which we have been able to find is dated 1902. In the meantime education in the Philippines had been resumed and greatly expanded by the Americans, even though the Philippine-American War was still in progress. First, it is said, soldiers in the pacified areas served as volunteer teachers to eager students. Quickly the American governors in the Philippines saw the need for the general education of the populace. On August 23, 1901 the U. S. Army Transport "Thomas" arrived in Manila with approximately 1,400 American teachers. Although 48 teachers had arrived two months previously on the "Sheridan" the early American teachers are still referred to as the *Thomasites*.

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[1] Loarca, Miguel de. "Relation of the Filipinas Islands," June 1582. English translation in Vol. 5 of *The Philippine Islands 1493-1898*, edited and annotated by Emma H. Blair and James A. Robertson. Cleveland: Arthur H. Clark Co., 1907.

[2] Chirino, Father Pedro, S.J. "Relacion de las Islas Filipinas." Rome: Estevan Paulino, 1604. Original and English translation appear in Vol. 13 of *The Philippine Islands 1493-1898*, edited and annotated by Emma H. Blair and James A. Robertson. Cleveland: Arthur H. Clark Co., 1907.

As early as 1902 interest in the education of the deaf and the blind was expressed by General Superintendent of Education, Fred W. Atkinson, in his annual report to Bernard Moses, Secretary of Public Instruction at that time. Under the heading of "Special Schools" we find this note: "Attention is again called to the need of reform schools and schools for the deaf, dumb, and blind."

Although Mr. Atkinson was *again* calling attention to the need for schools for the deaf, it was not until 1907 that appropriate action was taken. Dr. David P. Barrows,[3] Director of Public Education, noted that a special census showed 92 deaf and blind persons in Manila and several thousands in the provinces.[4] Dr. Barrows, on a recruiting drive for teachers in the United States, hired Miss Delight Rice as the first teacher of the deaf and blind in the Philippines and she became Principal of the School for the Deaf and Blind.[5] The history of the education of the deaf in the Philippines from this time on has also been the history of that school.

School for the Deaf and Blind[6]

It was one thing to have a teacher of the deaf and blind, but quite another to get a class inaugurated. There were many in Manila, including some teachers, who thought there was no need for such a class. Furthermore, in those days parents often kept their handicapped children hidden, regarding them as blemishes on the family, or even a curse of God. The people considered such children as *desgraciadas*. Miss Rice literally had to seek out deaf children and convince their parents that formal education would be profitable for them.

The first year's effort would show three students in training. The first was Sergio Papa, age 15 years, from Albay Province, who remained only a short time in the class. Sergio received help in speech, lipreading, school subjects, and some training in carpentry at a nearby school. The second student was Paula Felizardo, age 5 (now a grandmother!), who resided near Manila. To get her parents to allow Paula to enter the class Miss Rice had to hire her father as a laundryman, so he could watch over his daughter. Paula proved to be an apt pupil and after a period of training she and Miss Rice traveled to outlying provinces, going to homes where deaf children were said to live, to show the parents the value of formal training. It was a slow process educating the parents to accept education for their deaf children.[7]

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[3] Dr. Barrows had been a faculty member at the University of California and had served on the Board of Control of California, which had under its care the California School for the Deaf and Blind. In 1906 he became Director of the Bureau of Education in the Philippines.

[4] A province in the Philippines compares approximately with a state in the U.S. The province, however, has less authority than does a state, and in education the national government inaugurates most rules, makes most decisions and teacher assignments, etc.

[5] Delia Delight Rice was born 1888. Her parents were deaf and both probably taught at the School for the Deaf and Blind in Manila; we know that her father, Charles M. Rice, taught there. Miss Rice's brother, Charles Freeman Rice, was in the U. S. Navy submarine service during World War I, and another brother, Percy E. Rice, died before 1964. Miss Rice had taught a class of deaf-blind students at the Ohio School for the Deaf in Columbus, Ohio. She arrived in Manila in June 1907. After returning to the U. S. in 1923 she taught at the California School for the Deaf at Berkeley, and in 1949 retired as supervisor of conservation of sight-hearing-speech in the Berkeley school system; she also helped establish a hearing program at Los Angeles and taught at the College of the Pacific at Stockton. In 1955 Gallaudet College awarded her an honorary Doctor of Pedagogy degree. Miss Rice died Oct. 9, 1964, with funeral services at the Berkeley Hills Chapel, Rev. Jack Finnegan of the University Christian Church officiating, and burial in Centerberg, Ohio. When Miss Rice left the Philippines in 1923 she brought two deaf boys with her: Lester Naftaly, who later married, and Bernardo Cuengco, who stayed with Miss Rice until her death and now resides in Berkeley. The Jan. 1919 issue of *American Annals of the Deaf* quotes a report that Miss Rice resigned as Principal of the school to become a Red Cross nurse in Siberia, and her father was Acting Principal; the report seems to have been premature.

[6] Much of the history of this school is taken from an anonymous, typewritten, historical sketch at the School for the Deaf and Blind. The manuscript is undated but apparently was written in 1962. This manuscript, in turn, is based on one written at the school about 1960, which in turn seems to have been based on a summary of annual reports of the principal to the Special Education Section of the Bureau of Public Schools, plus other source materials. The author gratefully acknowledges the assistance of Miss Minerva Sison, teacher at the school, for much of the recent history of the school; Miss Sison is completing her M.A. degree in Deaf Education at Kent State University.

Classes were first held in a room in the Philippine Normal School, in Manila. Within a year a seven-room house on Calle Mercado was rented. Partitions were added so as to provide dormitory rooms, dining room, quarters for Miss Rice, and a classroom. By the opening of the second term there were 13 boys and girls in the school, ages 5 to 18 years. This number was soon to be increased by 9 more pupils.

The school had now outgrown its home and a larger building on Calle Real was rented. In 1910 the old Engineer Building on Malecon Drive, near the waterfront, was remodeled and became the School for the Deaf and Blind; the enrollment was now 19 pupils, "as many as could well be cared for."[8]

From the beginning the school followed the same course of study as used in the public schools, with a combined system of instruction consisting of "writing, finger spelling, speech, and every other physical activity." The aim was "to make them happy and self-supporting."[9]

Facts about the earliest years of the school are meager. Evidently few records were kept, and those that were kept were destroyed, along with all books, equipment, etc., during World War II. The information which appears in this article is based primarily on published records which survived the war, but unfortunately we cannot always distinguish data between the blind and the deaf at the school.

One of the students who enrolled with the second term was Pedro Santos, age 7. Pedro later attended the Gallaudet College high school department and returned to Manila to become a teacher in the SDB.[10] In 1912 Paula and Pedro, evidently star pupils, were still in school, but we do not know how long they or the average student stayed in school.[11] Dormitory space was, of course, one reason why some children could not be accepted at the school. The average age of the pupils in 1912 was 9 years, and that same year the class size for at least one of the classes was reported as eight.

Although Miss Rice was trained in manualism the school attempted some oralism, particularly after she observed some oral classes in the U. S. while she was on furlough in 1916. In fact, an aim of the school was to place every pupil under oral instruction and to continue with that method unless he was found unable to pursue such work to his advantage, in which case he was instructed under the manual approach. Evidently the oral approach was not too successful until orally trained teachers from the U. S. arrived in 1923.

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[7] Rice, Delight. "The School in the Philippines." *The Volta Review*, 47, 1945, 264-267, 316, 337-338, 374.

[8] Cone, Frank L. "Fifteenth Annual Report of the Director of Education, Jan. 1, 1914 to Dec. 31, 1914," *Annual Report of the Director of Education*, Manila, Bureau of Printing, p. 294.

[9] *Ibid.*, p. 43.

[10] How many other deaf students later became teachers at the school is unknown, but there were probably few. In 1921 three of the seven teachers were deaf, probably Pedro Santos and Miss Rice's parents. Official reports in 1934 and 1935 specifically point out that none of the teachers were deaf. In later years non-teaching staff often has included deaf individuals.

[11] An article, presumably by Delight Rice, which appeared in *The Teacher's Assembly Herald*, 1912, Vol. 5, No. 16 (May 1912), pp. 81-84, published by the Department of Public Instruction, Manila. Reprinted in *Tales of the American Teachers in the Philippines*, edited by Geronima T. Pecson and Maria Racellis. Manila: Carmelo & Bauermann, Inc., 1959.

In the early years the children were up for breakfast at 6:00 A.M., followed by household tasks until 8:00. The greater part of the day was then spent in academic and industrial instruction. Recreation activities were scheduled for 4:30 P.M., followed by supper, then a 7:00-7:30 study period, and bedtime at 7:30.

We do not know when the teaching staff was increased, but by 1912 it included the principal and four Filipino assistants. Miss Rice's parents also came to the Philippines and it is known that her father taught there. In 1918 "the school had a larger corps of teachers and as a consequence, the work was more successful than ever before."[12] The school was also evidently at least partly self-sustaining for in 1919 poultry raising was added to gardening to fill the needs of the dormitory. At about this time Boy School troop No. 2 was organized for the deaf boys; Troop No. 1 was made up of American sons of civilian employees in the Philippines.[13]

Dormitory space was still a factor in not being able to care for all deaf and blind children who needed educational placement.[14] After a long and determined effort with the government[15] the sum of ₱260,000 was appropriated in 1921 for a two-story concrete school building.[16] A two hectare lot was donated for the school by an American lady who chose to remain anonymous; the lot was at 1099 F. B. Harrison Street (later renumbered 2620), Pasay City. This was in a nice residential suburb of Manila, diagonally across the street from the Polo Club, and only about a block from Manila Bay. It was not until 1923, however, that the building was ready for occupancy.

Miss Rice had seen her program grow in size and importance. From three students there were now almost 80. And the long cherished dream of a school building designed specially for her students was now a reality. Truly she had been a pioneer and could now turn the work over to others.[17] In 1923, with the new school built, Miss Rice resigned and returned to the United States.

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[12] Marquardt, W. W. "Nineteenth Annual Report of the Director of Education, Jan. 1, 1918 to Dec. 31, 1918," *Annual Reports of the Director of Education, 1917-1920*, Manila, p. 71.

[13] Pedro Famatiga, the Industrial Arts teacher, was the first scoutmaster of the troop and thus the first Filipino scoutmaster: he was also the first Filipino to become an Eagle Scout. Returning to Manila after a holiday, in June 1926, a typhoon swamped the small boat on which he was on, drowning him, his wife, and infant son. His wife, Maria, also taught at the school. A girl scout troop was organized a few years later by Miss Tyra M. Westling, the first troop of Filipino girl scouts.

[14] The *Report of the Philippine Commission* of 1913 provides the following census material, with no breakdown by age:

	Males	Females	Total
Blind	4,484	4,183	8,667
Deaf	2,231	1,505	3,736
Deaf-mute	3,127	2,346	5,473

[15] From a legislative standpoint the Philippines, until the 1935 Commonwealth, was governed by an Assembly of elected Filipinos and a Governor-General who was an American appointed by the U. S. President. The Governor-General had veto power over the Assembly; he was advised by a Commission made up of Filipinos who were appointed and also Americans who headed various Executive Departments.

[16] During the American regime and even until the 1950's the peso was pegged at ₱2.00 to $1.00. Today the value fluctuates around ₱3.85 or ₱3.90 to $1.00.

[17] At this time and even before, American civil service workers and teachers were encouraged to retire so Filipinos might take over their jobs and gain experience for self rule. Of the 8,360 teachers in 1913, 7,969 were Filipinos. By 1919 only 356 American teachers remained. Unlike this trend the School for the Deaf and Blind continued to have an American principal and several American teachers for two more decades.

From 1923 to 1941

Miss Julia Hayes,[18] like Miss Rice, a manualist, succeeded the latter as principal of the new school. Lipreading and speech were, however, used with those students who could profit from this approach. In-service training of the Filipino teachers was intensified, directed by orally-trained American teachers, Miss Elizabeth R. Lyle[19] and Miss Tyra M. Westling.[20] All teachers were required to read professional books and journals regarding the latest trends in the education of the deaf and the blind. Yearly public programs were held to show what had been accomplished and to stimulate interest in the children and their problems. The deaf demonstrated their speech and lipreading skills, while the blind entertained the public with singing and playing stringed musical instruments.

Under Miss Hayes' term as principal, Filipino teachers were sent to the U. S. for advanced training. The purpose of the school was again emphasized as "to fit the students for occupations which will make them wage earners in spite of their physical handicaps."[21] It was hoped "that the pupils receiving this instruction (lipreading, speech, and voice training), aided by their industrial training, will eventually be able to compete wth normal persons in the business world."[22]

To realize the restated aims of the school, four departments were organized: academic, industrial and vocational, musical, and physical education. The academic department included all grades from elementary through secondary. All subjects taught in the ordinary schools were included and in addition the special subjects appropriate to the deaf and blind were added.

The industrial and vocational department included instruction in typewriting, piano tuning and repairing, housekeeping, embroidery, sewing, carpentry, agriculture, gardening, basket and mat making, canning, and laundry work. Obviously some of these were appropriate only to the deaf and others only to the blind.

The music department served the blind children primarily, offering instruction in piano, stringed instruments, and voice culture. The physical education department offered gymnastics, games and recreational activities, scouting, and was in charge of picnics and indoor parties and similar programs.

In 1926 Pedro Santos, who was one of the school's first students, as mentioned earlier, became the first president of the newly founded Philippine Association of the Deaf. This association's motto became "This We Promise." Purposes of the PAD include: supporting the combined system of instruction at schools for the deaf in the Philippines, conducting adult classes in English, to educate employers regarding abilities of the deaf, to inform hearing people about the deaf, and to support local associations of the deaf. Richard Sancho West has been president of PAD since 1953.[23]

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[18] Miss Hayes went to the Philippines in 1921 to teach English, first at the high school in Batangas and then at the Philippine Normal School in Manila. Before going to the Philippines she taught at the State School for the Blind, Tennessee, for four years.

[19] Miss Lyle, B.S., taught 5th grade for at least two years beginning Sept. 1917 at the Pennsylvania School for the Deaf. She went to the Philippines late in 1922. Because of illness, said to have been caused by the tropical climate, she returned to the U. S. in 1924. She was a sister-in-law of Dr. Herbert Day of Gallaudet College.

[20] Miss Tyra Melvia Westling was trained by Josephine Avondino at the Home Oral School in Sand Springs, Okla. She was a teacher in the day school for the deaf at Erie, Pa., for four years. She left Seattle on June 25, 1924, on the *SS McKinley* and arrived in Manila via Japan and China. She returned to the U. S. for seven months beginning May 1928 and for five months in 1934. In Sept. 1936 she became Vice Principal of the Chefoo School for the Deaf, in China, until 1941. She is presently teacher of the deaf at Birney School, Tacoma, Wash. Her reminiscences of the Philippine school appeared in *The Volta Review*, 47, 1945, 554-556, 596, 687-690. The author is particularly indebted to Miss Westling for many details about the school in the late 1920's.

[21] Bewley, Luther B. "Twenty-Fifth Annual Report of the Director of Education, Jan. 1, 1924 to Dec. 31, 1924." *Annual Reports of the Director of Education, 1921-1925*, Manila, p. 43.

[22] *Ibid.*, p. 44.

Miss Hayes resigned as principal in 1936 to return to the United States. Miss Lucretia Belting became the next principal. Miss Belting was not trained in the education of either the deaf or the blind, but she proved to be an efficient administrator. In 1938 she was able to get an appropriation from the Commonwealth government for ₱60,000.[24] This amount was needed for an additional wing to the school, which gave more space for quarters, play room, and workshop for the boys. The wing also provided an additional room for the blind and a dispensary for the school; construction was completed June 1940.

During Miss Belting's incumbency, Miss Elizabeth Greenwald[25] and Mrs. Adeline Belinski, American trained specialists, assisted in upgrading the teaching of speech, lipreading, and language to the deaf pupils. Because of the continuing need for trained teachers more Filipino teachers were awarded scholarships for further training in the U. S. About this time a group auditory training unit was donated to the school by the Manila Rotary Club; this unit was the first such amplification device in the Philippines.

At the close of the 1940-41 school year Miss Belting was granted a leave of absence to visit the United States. At the opening of the new school year, in July, her duties and responsibilities were divided between two experienced instructors. These acting co-principals were Miss Elvira Llanes, who took charge of the academic matters, and Mr. Florencio Castro, who took charge of the administrative matters of the school. With the cooperation of the other teachers everything went well until the world was shattered by a Pacific war on December 7, 1941—which, because of the International dateline, was December 8, 1941 in the Philippines.

WORLD WAR II

Miss Belting was in the United States at the outbreak of the war, and at least one Filipino teacher from the school was there also, at Central Institute of the Deaf on a scholarship. The concern of fellow professionals for the school is seen in two notices in the *American Annals of the Deaf*.[26] One simply notes that the fate of the Philippine School for the Deaf and Blind is not yet known, and repeats facts from the past school year. The second notice is ominously titled "Fate of the Philippine School." Herein is fragmentary word from the American Red Cross that the school was in operation up until December 1941, and that there were no Americans on the staff at that time. A returnee on the exchange vessel *Gripsholm* is quoted as saying that the school is no longer functioning and is simply a refuge for the deaf and blind. A rice allotment for the school was said to be among the list published in the Manila newspapers. Parts of the school were said to have been converted into a hospital for wounded Japanese soldiers.

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[23] Lindholm, Toivo. The Deaf of the Philippines. *The Silent Worker*, Feb. 1959.

[24] Commonwealth Act No. 328, approved on June 18, 1938, Sec. 2, entitled "An Act to amend Commonwealth Act number sixty-seven entitled 'An Act making appropriations for public works' ".

[25] Miss Greenwald arrived in Manila in 1935 from the school in Rochester, Minn. She married while in the Philippines and went to the Dutch East Indies in 1937.

[26] *American Annals of the Deaf*, 87, 1942, pp. 97 and 460.

The school did suffer during the war, and particularly did its students suffer from a total lack of training. The Japanese army almost immediately seized the building and made it an office and living quarters. Of course no care was taken of the training materials and equipment. The battle to retake Manila, almost four years later, and the near total destruction of all government buildings by the retreating Japanese, left the school greatly damaged.

With the liberation of Manila the school building was occupied by the American army. Some of the damaged walls, floors, and plumbing were repaired but only in a temporary manner. All school records, historical materials, teaching materials, and equipment were lost.

1946 TO DATE

The Republic of the Philippines was born in 1946, with a great hope in the future, but with the realization that their nation and economy had been severely damaged by the war. The great destruction in buildings and loss of life in this country is still not completely realized by other nations. Hundreds of schools had been damaged or destroyed. The teacher corps had been scattered and many died in fighting for their country or otherwise as a result of the war. Late in 1946 Mr. Venancio Trinidad, then Superintendent of City Schools in Manila, and Mr. Francisco C. Tan,[27] made an inspection of the School for the Deaf and Blind, and decided that despite the difficulties involved the school should reopen for the school year.

On November 18, 1946, the school reopened under the principalship of Mrs. Maria V. Francisco,[28] a well trained and experienced teacher. Of the 17 teachers who had served up to the beginning of the war only seven returned; most had found more remunerative employment elsewhere. The school opened with 73 students (64 deaf, 9 blind), which was a little over half the number enrolled just before the war.

Rehabilitation of the building and its facilities, along with rejuvenation of the instruction and obtaining teaching materials became a major task at this time. The classes resumed with almost bare walls, and odds and ends of furniture which came from the U. S. army and navy. Appeals for monetary and other help were made locally and also to schools for the deaf in the United States. Donations in cash and in materials came from the Clarke School, Virginia School for the Deaf, New York Foundation for the Blind, the School for the Deaf and Blind in Hawaii, and others. Locally the Sea Front, the U. S. Army, the American Red Cross, the Baptist Mission, Dr. Luther B. Bewley, and other civic minded Filipino and American citizens who preferred not to identify themselves, responded to the call for help.

One reason for the relatively small post-war enrollment was the damage done to the dormitory, making part of it uninhabitable. After repeated requests, the President of the Philippines released ₱13,000[29] for building repairs. This amount allowed for the renovation of enough of the building to provide for 40 dormitory residents, and it was not until November 1956 that funds were available to complete the dormitory work, permitting a full complement of 60 dormitory spaces. This number of dormitory spaces remains today, allowing for 30 deaf and 30 blind students in the dormitory, supervised by two houseparents and a dormitory manager.[30] The remainder of the students are day pupils.

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[27] Mr. Tan was a teacher at the school. He received his M.S. degree at Washington University, St. Louis, in 1946, and studied at the Central Institute of the Deaf. Mr. Tan created the Special Education Section in the Bureau of Public Schools in 1953; this section by 1962 had grown to six supervisors with the responsibility of supervision of special classes in Manila and the provinces. In addition to his other duties he acted as principal of the School for the Deaf and Blind 1960-61, assisted by two teachers there.

[28] Mrs. Francisco was trained at the Clarke School for the Deaf. She took postgraduate work at the Central Institute of the Deaf. Since retirement she has resided in the U.S.

Meanwhile, in 1951, the repair of the school building proper was finally completed with the award of ₱13,709 from the United States-Philippines War Damage Commission. The War Damage Commission also donated a school bus, through the efforts of Mr. Andrew Gruber of the Manila Lions Club. Over ₱10,000 worth of mechanized tools and equipment for the vocational department was donated by the United Nations, through Miss Andre Roche, consultant.

Several other substantial donations helped the school in these difficult post-war years. Mrs. Slater, an American who lived in Cavite, willed the school ₱7,204, and from this typewriters, home economics equipment, piano and bus repairs, a refrigerator, and other items were purchased. The Manila Jaceerettes, from funds raised by a benefit show, donated ₱3,000, which purchased a motion picture projector, models for science classes, books, and art materials.

The school was rapidly moving back to normalcy. At Christmas and graduation time, and other special occasions, the school resumed the practice of presenting programs to the public—these public performances by students, begun in the 1920's, are more nearly professional performances than typical school programs. Filipino teachers who had gone abroad for special training returned to add new impetus to the program. In-service education was resumed and expanded. In July 1955 a two-week work conference was held at the school, directed by Dr. Liceria B. Soriano. The teachers, parents of the students, and Bureau supervisors worked hand in hand to solve problems and improve the school. The curriculum and the school's services were re-examined, and a study was begun to follow-up the graduates.

The curricula for the deaf was developed in the 1930's and is given in Appendix C. One of the outcomes of the work conference in 1955 was the realization that the deaf stay too long in the lower grades. The average deaf student was spending approximately three years in Grade I and two to three years in Grade II. There was also the problem that many of the deaf students did not arrive at the school until their teens, which resulted in many of them dropping out of school before completing the course. It was therefore recommended, and beginning in the 1955-56 school year inaugurated, that all deaf students would initially go through a one year preparatory level before starting Grade I, and at the same time the elementary program was reduced from 10 years to 7. Another reason for this change was that the School for the Deaf and Blind, like other schools in the Philippines, was in a financial pinch; most public schools at this time dropped two years from the elementary curriculum.

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[29] This amount was raised by the Philippine Charity Sweepstakes. Many similar worthy causes have benefitted from this endeavor which is sponsored by the national government.

[30] Republic Act No. 3562, June 21, 1963, appropriated ₱500,000 for the construction and operation of the Philippine National School for the Blind. When this is completed the present school will become two schools, the present location for the deaf, and the new location for the blind, permitting enrollments and dormitory spaces for both to be expanded. At the time of this writing the projected opening date for the new school has not yet been announced.

In 1957 a revision of the curricula for all public schools in the Philippines was made, which did not exempt the School for the Deaf and Blind. Adjusting the subject areas at the school was not a major problem but the language matter was a problem. The revision provided for the use of the native language of that particular geographic area[31] to be used as the medium of instruction in Grades I and II and for the teaching of English and Filipino[32] as subjects in Grades I and II; English was to be the medium of instruction for all grades above II, with Filipino as a required subject. The deaf in particular had difficulty with bilingual (or in some cases trilingual) matters in the first two grades, and the abrupt change from Filipino to English in the third grade was difficult where language concepts are still developing. Permission was finally obtained to use English as the medium of instruction from Grade I on up and the teaching of Filipino as a separate subject from Grade IV on up.

An acute post-war problem was in regard to teachers. Before the war the teachers at the school, because of the need for special training, received a slightly higher salary than did other public school teachers. In 1953 all teacher wages came under a Wage and Position Classification Office, and the teachers at the School for the Deaf and Blind lost their additional pay. Teacher morale and teacher recruitment became more of a problem. The salary problem and its affect on teacher recruitment for the school is reflected in the fact that of 25 students who were sent to the U. S. for special training over a three year period, 10 remained in the U. S. to teach and 5 returned to the Philippines but did not teach at the school. After a number of representations a higher salary schedule was put into operation, giving consideration to all special school teachers, including those at the School for the Deaf and Blind. Even so, the salary schedule today can hardly be considered attractive.

Space also continued to be a problem at the school. One effort to provide for the larger number of deaf and other special students was to bring in 25 classroom teachers for special training in the summer of 1956. These teachers received courses in rehabilitation and teaching of the deaf and hard of hearing. Classes were held at the School for the Deaf and Blind. These teachers then returned to schools scattered all other the Philippines to inaugurate classes for the deaf and hard of hearing. The results did not prove worthwhile, perhaps due to the meager training possible in one summer session, and also the uncooperative attitude by some local administrators who did not appreciate the problems of special education. Summer courses in special teacher training in areas other than deafness continued up to 1960.

A 1956-57 survey in the Philippines showed a minimum of 14,300 deaf and hard of hearing children. In 1956, 15 classes at various schools were started for hard of hearing and speech defective children. It may be seen that many hearing handicapped children still were and are not receiving appropriate educational placement.

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[31] There are approximately eight languages and 80 dialects in the Philippines. As noted earlier, English has been the language of the schools from the beginning of the American era. The 1957 rules called for the local language or dialect to be used in Grades I and II, English to be used in Grade III and upward.

[32] Filipino is the name given to Tagalog, the national language. In an effort to develop Filipino as the language of all the people it is now a required subject for all students from Grade III upward. For a further discussion of Filipino and other languages in the Philippines see: An Introduction to Tagalog Phonetics and Pronunciation, by Kenneth W. Berger, *Phonetica*, 68, 1967,

Several other post-war developments are worthy of mention. The first is the inauguration of a more formally organized Parent-Teacher Association. With the aid of the parents the maiden and only issue of the *SDB Gazette* appeared on December 15, 1959; in 1965 the *Newsette* took the place of its predecessor and has since been published approximately three times per school year. This publication includes not only news of the school but also a children's page. Religious instruction, never a part of the regular school activities, was also placed on a more organized plane at this time.[33]

At the close of the 1959-60 school year, Mrs. Francisco took her terminal year's leave of absence prior to retirement. Mr. Francisco C. Tan, in addition to his position as Chief of the Special Education Section, became acting principal. He was ably assisted by Mrs. Felicidad P. Vinluan and Mrs. Sergia G. Esguerra.[34] During the summers of 1960 and 1961 seminars on improving instruction and services for exceptional children were held, with great improvement to the staff and the school. A reduction in class size was enabled by the increase of staff at about this time, with improvement in instruction and in staff morale. After a year as principal, Mrs. Esguerra became a supervisor in the Special Education Section and Mrs. Vinluan succeeded her as principal.

The esteem in which the school is held is reflected in the financial and other help the school continued to receive. In addition to public funds received from the national government the school received ₱3,050 from the French Federation of Unesco Clubs through the efforts of Mrs. Geronima T. Pecson, ₱4,000 from Mr. Jorge Araneta, audio-visual equipment from the Pasay City Rotary Club, ₱5,852 from the school's P.T.A., ₱2,000 from the will of Mrs. Hartley E. Sherman, and ₱150 was raised by the school's Girl Scouts. These donations enabled the school to construct and furnish a sound treated air-conditioned room for speech and auditory training, a library for the sighted and improvement in the braille library, a covered and paved walk and waiting station for the day students, and vocational equipment. The vocational equipment allowed the inauguration or improvement of work in tailoring, barbering, woodworking, and home economics.

Self-study by the teachers was increased and organized on a more permanent basis. Guidance, evaluation, documentation, library, audio-visual, and statistics committees were created. Anecdotal records of the children were updated. Valuable documents relevant to the school's history were searched out and obtained or copied to replace those lost during the war. The library was improved, adding books of general interest and those pertaining to deafness and blindness; the USIS Library authorities provided for the training of two teachers in library science. A permanent historical marker was placed on the front wall of the building. Detailed studies of the students were begun, including the causes of deafness among the students and the reasons for students dropping out of school. An alumni association was formally founded. In 1961 psychological testing of all deaf students was begun, and an audiometer was obtained in 1962. In-service training for the faculty continued.

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[33] The Philippine Constitution guarantees freedom of worship. Roman Catholics are greatly in the majority and, as would be expected, children of that faith outnumber others at the school. During Miss Rice's tenure as principal there were also a number of Protestant students, at least two Mohammedans (from the southern islands), and a Jewish boy.

[34] Mrs. Esguerra was trained at the Central Institute of the Deaf. Mrs. Vinluan was born April 12, 1906. She taught at the Pangasinan Vocational High School and the Bayambang Normal School, and in June 1935 started teaching at the SDB. Mrs. Vinluan received her BSEE degree from Philippine Normal College and M.A. in 1964 from Philippine Womens University; her M.A. thesis was "The Personal and Technical Competencies Needed by Teachers of the Deaf."

Dormitory space continues to be a particular problem, and the opening of a new school for the blind will help solve this problem. To help ease the problems of space at the School for the Deaf and Blind, and also to provide training for the deaf and blind nearer their own homes, several other schools have in the past been planned. A small Catholic school for the deaf was opened briefly in 1937. Schools for the deaf and blind were proposed in 1942, one at Cebu and the other at Iloilo, but evidently neither actually began operation.

In 1961 Miss Delight Rice, first principal of the School for the Deaf and Blind, made a sentimental visit back to the Philippines, arriving on September 5, 1961. Some 300 students and alumni of the school met her at Manila International Airport. While she was in Manila the Historical Commission of the Philippine government unveiled a marker on December 22, 1961, at the school. The large marker, at the school entrance, reads:

> SCHOOL FOR THE DEAF AND THE BLIND
> (1907)
>
> Pioneer school for the handicapped in the Philippines.
> Planned by Dr. David Barrows, Director of Education.
> Organized by Miss Delia Delight Rice, Principal Teacher
> (1907-1923). It was established in the City of Manila
> where it remained until it was transferred to its
> present site in Pasay City, June 1923.
>
> Leading institution for the education of the deaf and
> the blind in the Philippines.

Following the unveiling of the marker, Miss Rice received a testimonial dinner, at which she was presented with a plaque of appreciation from the deaf in the Philippines. Miss Rice returned to the U. S. in March 1962.[35]

As stated earlier, teacher recruitment is somewhat improved following special pay for special teachers. At present the qualifications for special teachers, in addition to the usual requirements of emotional stability, etc., are:[36]

1. B. S. in Education (or Elementary Education) plus at least 6 units of Special Education on the graduate level.
2. At least one year of successful teaching in the regular classroom.
3. At least junior teacher eligibility for elementary teachers and at least senior teacher eligibility for secondary teachers.

The School for the Deaf and Blind, the staff of the school, the Republic of the Philippines, and the Americans who pioneered there, can truly be proud of the record and achievements of the school and its students. Small achievements also offer reason for pride. One such achievement occurred in 1962 when Angelo Mercado, a deaf boy from Pampanga Province, won a special prize in the high school division for his abstract painting, in a contest sponsored by Shell Company. A year later his painting was among those displayed during Children's Week and Mrs. Eva M. Macapagal, wife of then President Diosdado Macapagal, requested this art work.

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[35] *The Silent Worker*, Oct. 1961 and Feb. 1962.

[36] Circular 11, April 30, 1962, from the Department of Education, Bureau of Public Schools, Manila, to all Superintendents.

A complete list of Principals at the School for the Deaf and Blind is as follows:

1907-23	Miss Delight Rice
1923-36	Miss Julia Hayes
1936-41	Miss Lucretia Belting
1941	Miss Elvira Llanes and Mr. Florencio Castro, acting principals from July to December
1946-60	Mrs. Maria Villa Francisco
1960-61	Mr. Francisco C. Tan, acting principal
1961-62	Mrs. Sergia G. Esguerra
1962-	Mrs. Felicidad P. Vinluan

* * * * *

In addition to acknowledgments which are included in several of the footnotes, the author received valuable help in researching this historical article from: Mrs. Caroline Burns, Librarian at the California School for the Deaf; Rev. Jack Finegan, University Christian Church at Berkeley, Calif.; Mr. John G. Nace, Headmaster of the Pennsylvania School for the Deaf; and Mrs. Jacqueline Buell, Librarian at the Alexander Graham Bell Association for the Deaf.

APPENDIX A

ENROLLMENT IN THE SCHOOL FOR THE DEAF AND BLIND

School Year Beginning	Boys	Girls	Total
1907	2	1	3[a]
1908			11
1909			19
1910			31
1911			40[h]
1912			46[i]
1913	29	14	43
1914	37	16	53[b]
1915			58
1916			63
1917			60
1918			49
1919			56
1920			75
1921	59	21	80[b]
1922	55	23	78
1923	56	30	86
1924	64	28	92
1925	72	31	103
1926	77	43	120
1927	77	47	124
1928			130[g]
1929-32			unknown
1933			123[c]

School Year Beginning	Boys	Girls	Total
1934	69	51	120
1935	80	60	140
1936	72	51	123
1937	71	52	123
1938	75	62	137
1939	70	52	122
1940	74	50	124
1941	68	49	117[e]
1942-46	school not operating		
1946	47	26	73[d]
1947	84	46	130
1948	102	52	154
1949	116	61	177
1950			122
1951	99	55	154
1952			138[e]
1953			130
1954	118	66	184
1955	134	100	234
1956	138	113	251
1957	129	112	241
1958	141	121	261
1959	158	113	271
1960	157	115	272
1961	138	118	256
1962	164	134	298
1963	174	135	309
1964	194	132	326
1965	214	136	350
1966	217	153	370[f]

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[a] The first three students were probably deaf. The data from the founding until 1933-34, based on reconstructed records, gives only combined enrollment for the deaf and blind with a few exceptions. From 1933-34 through 1941 only data on the deaf is here presented.

[b] For 1914-15 there were 29 deaf and 24 blind students. In the 1916 report it is noted that about half the students were blind and half were deaf. For 1921-22 there were 32 boys and 18 girls who were deaf.

[c] The data for 1933-34 through 1941 are for deaf students only.

[d] The data for 1946-47 and the early post-war years are for combined deaf and blind students. From 1952-53 to date the data are for deaf students only. There were 10 blind students in 1952-53, 20 in 1953-54, 47 in 1956-57, and 53 in 1963-64.

[e] From the beginning of the school year in July to the outbreak of the war in December.

[f] In 1966-67 there were 75 deaf students in the Preparatory Department, 215 in the Elementary grades (I-VI), and 80 in High School.

[g] 105 deaf, 25 blind.

[h] Students were from Manila and nine different provinces.

[i] 2 students from Batangas, 2 Bulacan, 1 Cavite, 2 Ilocos Sur, 4 Manila, 1 Occidental Negros, 19 Pampanga, 9 Pangasinan, 2 Rizal, 3 Tarlac, and 1 La Union.

APPENDIX B

NUMBER OF STAFF MEMBERS IN THE SCHOOL FOR THE DEAF AND BLIND[a]

School Year Beginning	Elementary	High School	Total[b]
1907			1
1912			5[d]
1917			5
1920			7
1934			12
1935			14
1936			13
1937			13
1938			16
1939			14
1940			18
1941			14
1942-46		School not in operation	
1946	7	3	10[c]
1947	8	4	12
1948	9	5	14
1949	11	6	17
1950	15	6	21
1951	13	6	19
1952	14	5	19
1953	13	5	18
1954	17	4	21
1955	14	5	19
1956	20	7	27
1957	23	5	28
1958	23	5	28
1959	26	7	33
1960	26	6	32
1961	34	11	45
1962	38	15	53
1963	46	15	61
1964	41	27	68
1965	43	30	73
1966	42	34	76

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[a] From manuscript records at the SDB, various issues of *American Annuals of the Deaf*, and personal letter from the SDB dated June 2, 1967.

[b] Data for both teachers of the deaf and the blind, and including teaching staff other than classroom teachers (e.g., vocational instructors). The records on teachers from 1934 through 1941 do not separate elementary and high school assignments but do show the number of male and female teachers; there were approximately two female teachers to each male teacher.

[c] Data from 1946 to date do not include the Principal and Assistant Principal in the totals; previous years presumably include them in the totals.

[d] Miss Rice and four Filipino assistants.

APPENDIX C

CURRICULA FOR THE DEAF (PRE-WORLD WAR II)

PRIMARY

Grade 1-A (Preparatory)	Grade 1-B	Grade 1-C
Lipreading (nouns, colors, commands)—200[a]	Lipreading—100	Lipreading—100
Speech—100	Speech—100	Speech—100
Number work—200	Number work—200	Reading—200
Sense Training—200[b]	Language—200	Number work—200
Rhythm—50[c]	Rhythm—50[c]	Language—200
Writing—100	Auricular Training—150[d]	Rhythm—100[c]
Drawing—100	Writing—100	Auricular Training—200[d]
Auricular Training—175[d]	Drawing—100	Writing—100
Industrial Ed.—200[e]	Industrial Ed.—200[e]	Industrial Ed.—200[f]
Gardening—470[g]	Gardening—620[g]	Gardening—820[g]
Home Economics—270[h]	Home Economics—270[h]	Home Economics—270[h]
Physical Education—450	Physical Education—450	Physical Education—400

Grade 2	Grade 3	Grade 4
Lipreading—100	Lipreading—100	Lipreading—100
Speech—100	Speech—100	Speech—100
Language—200	Language—200	Language—200
Reading—200	Reading—200	Reading—200
Number work—200	Arithmetic—200	Arithmetic—200
Writing—200	Geography—200	Geography—200
Drawing—100	Writing—100	Writing—100
Rhythm—100	Drawing—100	Drawing—100
Auricular Training—175[d]	Auricular Training—150[d]	Auricular Training—150[d]
Industrial Ed.—920[f]	Industrial Ed.—920[f]	Industrial Ed.—920[i]
Home Economics—500[h]	Home Economics—700[j]	Home Economics—800[j]
Physical Education—300	Physical Education—300	Physical Education—300

INTERMEDIATE

Grade 5	Grade 6	Grade 7
Reading—160[k]	Reading—160[k]	Reading—160[k]
Manners—Conduct—Spelling—40[l]	Manners—Conduct—Spelling—40[l]	Manners—Conduct—Spelling—40[l]
Language—200	Language—200	Language—200
Arithmetic—200	Arithmetic—200	Arithmetic—200
Geography—200	Geography—200	Philippine History and Government—200
Typewriting—200	Typewriting—200	Industrial Ed.—920[m]
Industrial Ed.—920[m]	Industrial Ed.—920[m]	Home Economics—800[n]
Home Economics—800[n]	Home Economics—800[n]	Physical Education—300
Physical Education—300	Physical Education—300	Agriculture—200
		Physiology, hygiene, and sanitation—200

SECONDARY

1st Year	2nd Year	3rd Year[o]
Literature—200	Literature & Comp.—200	Literature & Comp.—200
Composition—200	Ancient and medieval history—160	Modern and oriental history—160
Algebra—200	Current Events—40	Current Events—40
U. S. History & Govt.—160	General Science—200	Advanced Algebra and Review of Arithmetic—200
Current Events—40	Geometry—200	Industrial Ed.—200[p]
Industrial Ed.—200[p]	Industrial Ed.—200[p]	Home Economics[n]
Home Economics[n]	Home Economics[n]	Physical Education—300
Physical Education—300	Physical Education—300	

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[a] Numbers indicate class minutes per week; unless otherwise stated the number of recitations is 5 per week. [b] Given from 4 to 8 weeks at the beginning of the school year, then industrial work is substituted. [c] Given every other day. [d] Given only to those pupils who have reasonably good residual hearing. [e] Paper folding, paper tearing, etc. [f] Basket making. [g] Includes 170 minutes each Saturday for boys. [h] Includes dining room or dormitory duty for girls. [i] Toy making and gardening; for boys includes 170 minutes gardening on Saturdays. [j] Sewing, ironing; includes 90 minutes dormitory and dining-room duty on Saturdays for girls. [k] Four periods per week. [l] One period per week. [m] Gardening and toy making, including 170 minutes gardening on Saturdays for boys. [n] Sewing and ironing; includes 90 minutes of dining-room and dormitory duty for girls on Saturdays. [o] Third year was dropped in 1937. [p] 920 minutes per week in 1st year and 320 minutes per week in 2nd and 3rd years, and includes agriculture; in 1st year includes 170 minutes on Saturdays for boys. Some boys were sent to the Philippines School of Arts and Trades for woodworking, drafting, and metalwork; some were sent to the General Office of the Bureau of Education for printing.

THE 1947 COLORED RAVEN'S PROGRESSIVE MATRICES WITH DEAF AND HEARING SUBJECTS

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There has been a paucity of research with younger age deaf children using non-verbal type tests.[6] One problem in particular was that of obtaining reliable results with such tests as the Pintner Non-Language, the Chicago Non-Verbal and the 1938 Raven's Progressive Matrices. In connection with the latter Raven in 1947 developed the Colored Progressive Matrices for younger hearing children, and has published norms which extend down to 5½ years.[9] However, there has been little or no research in this country with the test.[3] In view of the fact that it is easily administered and does not require the services of a trained psychologist, a potentially valuable tool for assessing the ability of younger deaf children is being overlooked.

But before the test could be used effectively with the deaf an initial investigation comparing the performance of the aforementioned with the hearing would appear to be imperative. For example, the test was originally standardized on hearing children in England using verbal directions.[9] It is known that pantomime as compared to verbal directions will deleteriously affect performance on some non-verbal tests. The Chicago Non-Verbal Examination was standardized on hearing subjects using both verbal and pantomime directions because of the decrease in scores contingent upon the latter method.[1] In like manner Graham and Shapiro[2] in 1953 on administering the Performance Scale of the WISC to 20 deaf and 40 hearing subjects found a five point decrease in I.Q. which was attributable to pantomime as compared to verbal directions. Hence, methods of directions appear to be a primary variable for investigation.

Yet still another variable, which at times bears investigation when one is exploring a relatively untried test, is that of sex. It is well known that the sexes differ on some types of mental tasks. Hearing males not infrequently excel hearing females on arithmetic, but are inferior in reading in the lower grades.

The purpose of the study therefore, was threefold: first, to compare young deaf and hearing subjects on the 1947 Colored Raven's Progressive Matrices; second, to investigate methods of directions, pantomime versus verbal; and third, to explore the influence of sex.

The questions for study were:

1. Is there a significant difference between young deaf and hearing subjects in performance on the 1947 Colored Progressive Matrices?
2. Is there a difference on the test contingent upon method of directions (verbal or pantomime)?
3. Is there a sex factor associated with performance on the test?

In order to get an understanding of age as related to performance, two age levels were studied with the groups. The two levels selected were chronological ages 6½ and 8½ years.

Subjects

The subjects were 40 deaf and 40 hearing children with approximately equal sex representation. There were 20 deaf and 20 hearing at each of the two age levels of 6½ and 8½ years. The deaf subjects were selected from two state schools, a day school and classes for the deaf in Kansas and Missouri. The hearing subjects were selected from a local public school system in Johnson County, Kansas.

The criteria for the selection of the deaf were either congenital or early, severe deafness and intelligence within normal limits as estimated by teachers. With regard to the hearing, normal auditory sensitivity as determined by school tests and normal intelligence as estimated by their teachers were the prerequisites. Individual learning test quotients (Nebraska Scale of Learning Aptitude, 1948) were available on 12 of the older (8½ year group) deaf subjects, and Kuhlmann-Finch group IQ's on 16 of the older hearing subjects.

The Test

The Colored Progressive Matrices is a non-verbal test of intelligence which was developed by Raven in England, and initially published in 1947.[9] It consists of three sets of 12 problems or 36 problems in all. The test was originally constructed to supplement the 1938 Standard Progressive Matrices. Specifically, the Colored Matrices consists of 24 problems or sets A and B of the 1938 Standard Progressive Matrices, to which were added an additional set of 12 problems, Set Ab. Set Ab problems are intermediate in difficulty to problems 5 and 12 of Set A and problems 1 and 7 of Set B. Since the test is non-verbal it may be used with individuals who do not speak the English language, with the deaf, with aphasics and others who have verbal comprehension difficulties.

Raven describes his test as a measure "of observation and clear thinking." The problems were arranged to assess the chief cognitive processes of which children below age 11 are capable. "It indicates clearly whether a person is or is not capable of forming comparisons and reasoning by analogy; and if not, to what extent relative to other people, he is capable of organizing spatial perceptions into systematically related wholes."[9, 10]

The problems of the Progressive Matrices provide an opportunity for the individual to develop a system of thought. Each task consists of a problem figure or figures which may be solved by analogy through the appropriate selection of a smaller figure from a group of six located below the problem. The Raven's Test is not purported to be a measure of general intelligence. However, correlations of .50-.66 are reported between the test and the Binet Scale. Test-retest reliability is about .90. Raven discusses the form board as well as the booklet version of the test. Only the latter is commercially available either in this country or in England. For this study the 1956 (revised) book version was used.[9] The test is not timed.

Procedure

The tests were administered during the Spring of 1967. Preliminary practice indicated that best results could be obtained with the deaf by giving the test in pairs. With the hearing it was possible to use groups of four regardless of whether the directions were pantomime or verbal. Pantomime directions were used for all deaf subjects. One-half of the hearing had verbal directions and the other half pantomime directions. The verbal directions, as described by Raven, were used. Since Raven did not provide instructions for pantomime directions simple gestural directions were developed and adhered to during the experiment. No difficulty was experienced in communicating the instructions to the deaf.

Results

It will be recalled that the comparisons between the deaf and the hearing subjects involved the two age levels, 6½ and 8½ years, and sex. It is suffice to report that statistically significant differences did not emerge in chronological age either as a function of age level or of sex. Hence, the deaf and the hearing groups were similar in age. Furthermore, in none of the comparisons to be reported was there found a difference in age, except between the older and younger age levels (6½ and 8½ years) within groups which was expected. Therefore, in Table 1 are shown the means and standard deviations on the Raven's Test of the deaf and hearing groupings.

Table 1. Means and standard deviations of Raven's scores for the deaf and hearing subjects.

		Deaf		Hearing		
N	Subjects	Means	S.D.	N	Means	S.D.
12	Younger Females	16.75	3.31	10	16.20	3.60
8	Younger Males	17.75	4.36	10	20.80	4.81
7	Older Females	21.86	2.17	9	20.22	4.53
13	Older Males	21.62	5.61	11	25.45	5.89
20	Total Younger	17.15	3.65	20	18.50	4.97
20	Total Older	21.70	5.18	20	23.10	5.83
40	Total Older and Younger	19.43	5.24	40	20.80	5.83

Table 2. Mean differences and t-test results for deaf and hearing subjects relative to Raven's scores.

Comparison	M/D	t	Significance
TOD/TYD	4.55	4.55	.001
ODM/ODF	.22	.15	NS
YDM/YDF	1.00	.79	NS
TOH/TYH	4.60	3.71	.001
OHM/OHF	5.23	2.73	.02
YHM/YHF	4.60	3.27	.01
TOH/TOD	1.40	1.12	NS
TYH/TYD	1.35	1.37	NS
OHM/ODM	3.83	2.21	.05
OHF/ODF	1.64	1.24	NS
YHM/YDM	3.05	1.89	NS
YHF/YDF	.55	.50	NS
H TOTAL/ D TOTAL	1.37	1.55	NS

Legend T=Total, O=Older, Y=Younger, D=Deaf, H=Hearing, M=Males F=Females

To determine the significance of the differences between the various means of the deaf and the hearing as presented in the table t-tests for independent means were computed. The results are shown in Table 2.

Table 2 shows that of the 13 comparisons, five were significant at the .05 level of confidence or better. Two of the differences were anticipated as they were between the older and younger deaf, and the older and younger hearing subjects. Both were significant at the .001 level of confidence. Hence, both the deaf and hearing improved in performance as a function of age.

As will be noted in the table, there was a significant difference at the .01 level between the Young Hearing Males and the Young Hearing Females with the former evincing superiority. Similarly, the Older Hearing Males exceeded the Older Hearing Females by 2.73 points which is significant at the .02 level of confidence. Also the Older Hearing Males obtained higher scores than the Older Deaf Males at the .05 level of confidence. No other differences between the deaf and the hearing were statistically significant for the groupings being considered. It should be noted that these results include the differences between the Total Hearing and the Total Deaf (t of 1.55) as well as the differences between the Total Older Hearing and the Total Older Deaf, and between the Total Younger Hearing and the Total Younger Deaf. In view of the three significant differences which emerged (two between the Hearing subjects and only one between the deaf and hearing) additional statistical analysis was undertaken which will be reported later in this section.

Next, the data for the hearing were regrouped on the basis of method of directions. As pointed out previously, pantomime as compared to verbal directions at time significantly depress performance on a test. Therefore, half of the hearing subjects at each age level were administered the test using verbal directions and the other half using pantomime directions. It is sufficient to report that no significant differences were found in these comparisons. As an additional precaution the subjects were regrouped on the basis of sex and the analysis then repeated. No significant differences were revealed. Therefore, it may be concluded that the use of pantomime directions does not significantly alter performance on the 1947 Raven's Test either at the 6½ or the 8½ year level.

It was pointed out earlier that IQ data were available on 12 of the older deaf and 16 of the older hearing subjects. The mean IQ of the deaf on the Nebraska Scale was 100 with an S.D. of 6.86. The mean and S.D. for the hearing subjects on the Kuhlmann-Finch IQ test was 105.44 and 6.98, respectively. Although the difference in IQ points proved to be significant, nevertheless, the comparison is not very meaningful in that the tests were different. However, it does serve to point up the fact that the two groups were within the normal range of intellectual ability. The important finding was that the two groups did not differ significantly on the Raven's Test. Hence, the result adds support to those previously presented indicating that the deaf and hearing do not differ on the 1947 Raven's Test at the age levels under study.

As a final analysis the nine older hearing males and the seven older hearing females on whom IQ data were available were compared with reference to Raven scores. (The mean IQ for the males was 104.33 and for the females, 106.86—a non-significant difference). Although the numbers here were small, nevertheless, the 6.26 difference which emerged in favor of the males was significant at the .01 level of confidence.

Discussion

The findings of this study provide evidence for the hypothesis that elementary deaf children perform as well as their hearing counterparts on the 1947 Colored Progressive Matrices of Raven. Furthermore, that pantomime as compared to verbal directions do not significantly hinder performance on the test.

An unexpected finding was the significantly inferior performance of the hearing females as compared to the hearing males on the test, even though their IQ's were statistically similar. The fact that no such differences came to light for the deaf suggests that the poorer performance of the hearing females could be related to a lack of certain experiences. For example, the kinds of children's toys (mechanical and constructive for boys as contrasted to dolls for girls) could provide one early advantage for the former in the solution of non-verbal problems such as are found on the Raven's Test.

Apparently, Raven found no such sex difference in his English standardization. At least such a conclusion could be reached from the fact that separate sex norms are not provided in the manual. It is of interest to point out that the English 50th percentiles at C.A. of 6½ and 8½ years respectively, for Dumfries School children, were 15 and 20 correct solutions. The mean Raven's scores for the hearing females of this study at the identical age levels were 16.20 and 21.22, thus similar to the English norms. One might speculate that early training in England is similar for the sexes, whereas in America there is a difference. Furthermore, that the experiences of young American females resemble those of English children. Hence, cultural differences with respect to the early upbringing of the sexes are suggested by the findings for American children.

In view of the outcome of this investigation additional study with the deaf is indicated. The present findings make it clear that future research should not be concerned with degree of loss, with sex and with the question of verbal versus pantomime directions. Emphasis should be placed upon the development of normative data using large samples over a wider age range, upon the differentiation of the perceptual and cognitive elements reflected in the test, upon the relationship of the test to other mental functions at the lower age levels, to the study of thought processes at various age levels to define the mechanisms of transition to higher levels and their effects on language acquisition, and to predictive and diagnostic possibilities. As pointed out earlier it is easily administered and does not require the services of a school psychologist. A teacher or principal therefore, could gather important information on students in the primary department, now critically lacking in most schools for the deaf in this country.

With reference to hearing children, the sex difference as found in this study should be explored further in order to determine its cause and significance. The writers have postulated cultural and/or experience differences in the training of male and female children in this country as compared to children in England.

Summary and Conclusions

Forty deaf and 40 hearing children of elementary school age were administered the 1947 Colored Progressive Matrices. Comparisons between groups on the Raven's scores were conducted for chronological age, sex and methods of directions (pantomime versus and verbal). With regard to the questions which were posed and in terms of the age levels which were studied (C.A.'s 6½ and 8½ years) it may be concluded:

1. That the deaf and the hearing do not differ significantly in performance on the 1947 Colored Progressive Matrices.
2. That sex is not a factor in the performance of the deaf on the test.
3. That performance is not significantly affected by medium of directions.
4. And that hearing males appear to be superior to hearing females. It was hypothesized that this finding could reflect differences in experiences contingent upon cultural influences rather than any innate differences in ability. Suggestions were made for future research.

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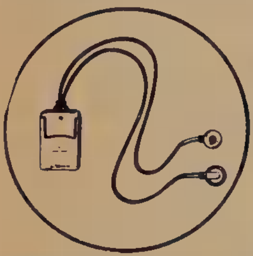

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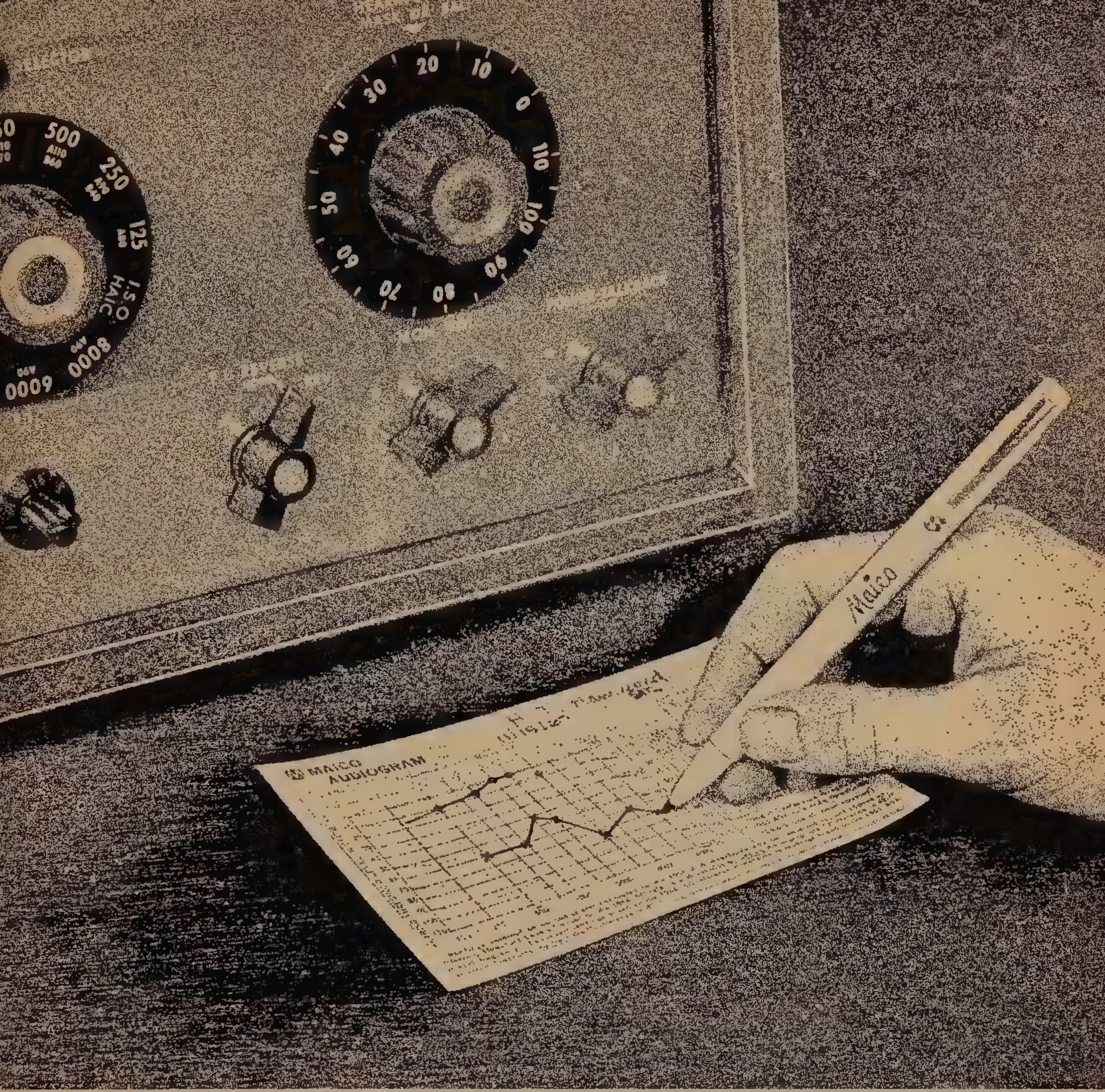

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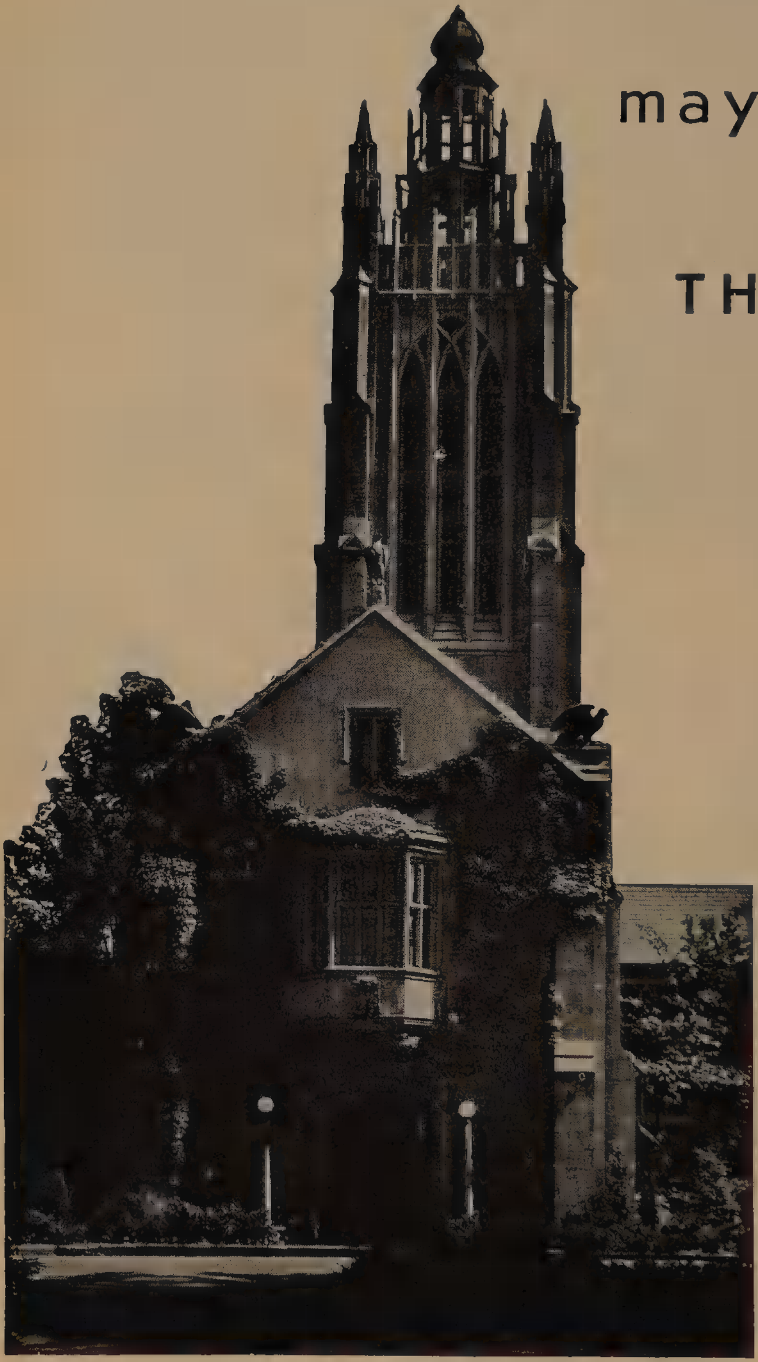

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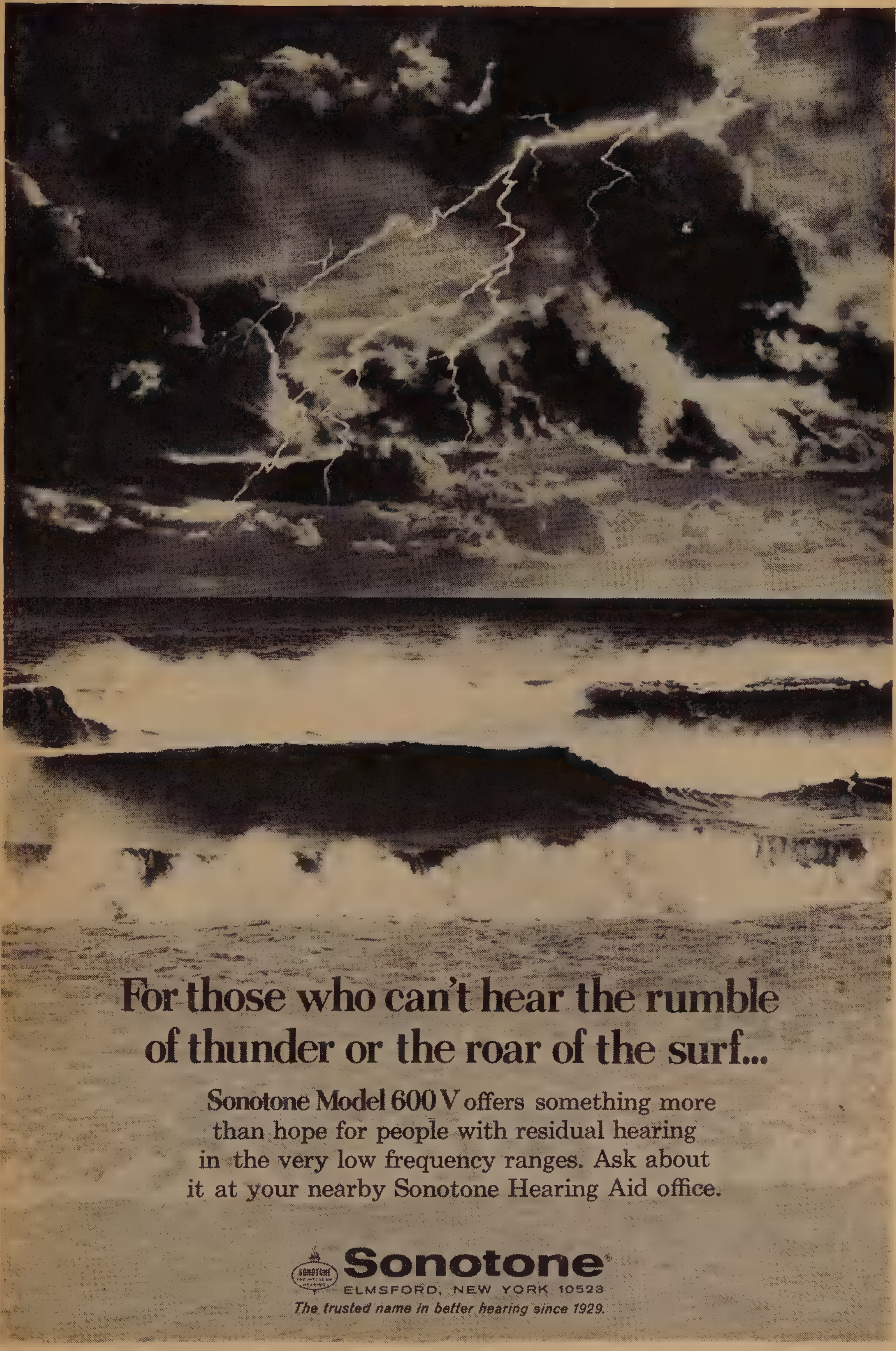

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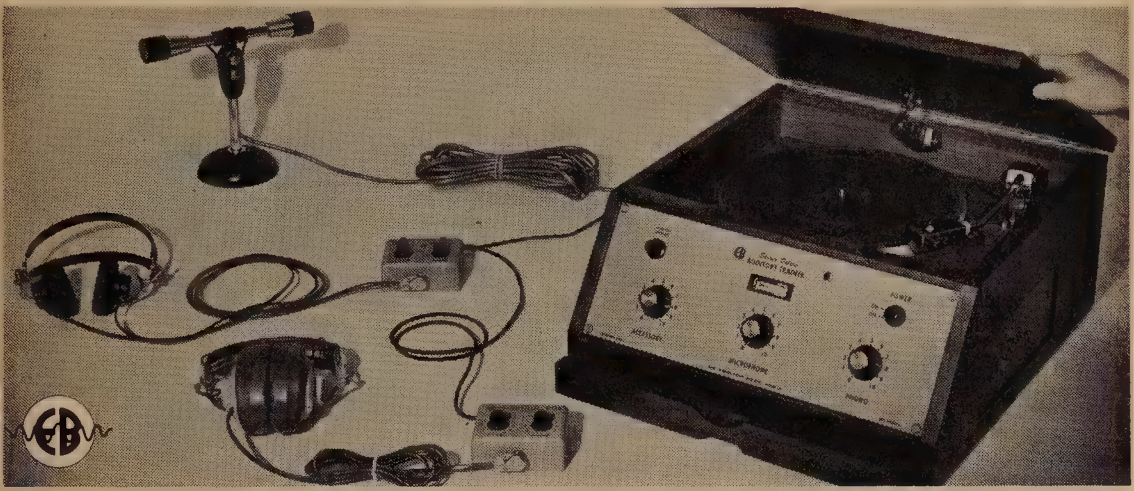

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